MODEL MAKING SECRETS OF THE CAR SHOW WINNERS

JUNE 1963

35¢

model car Science

GREAT CUSTOMS AND HOT RODS

HOW TO BUILD THE MODELS

NEW KITS ON THEIR WAY TO YOU



MONOGRAM'S NEW BIG DRAG



SPECIAL SECTION

TABLE TOP RACING

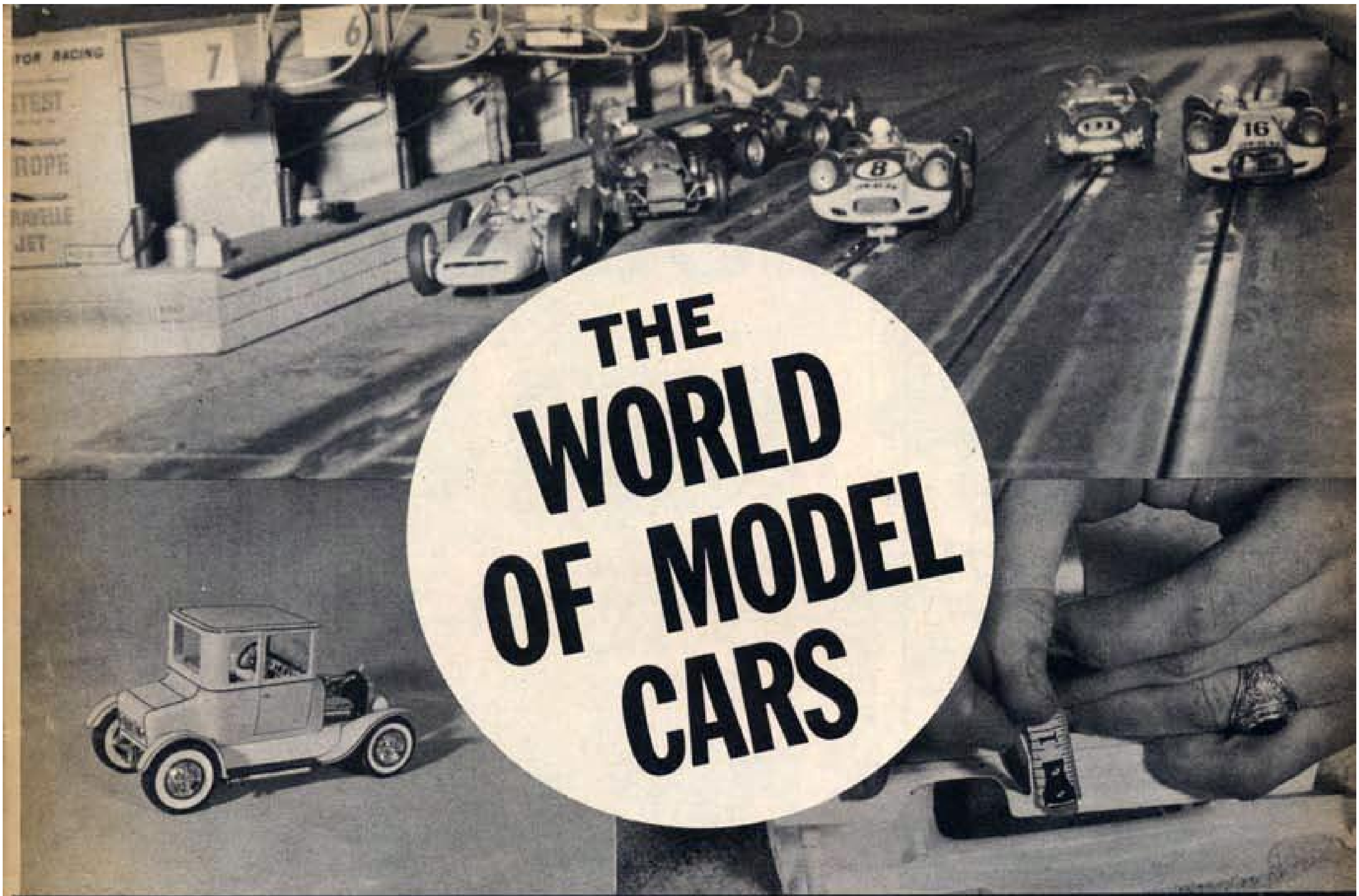
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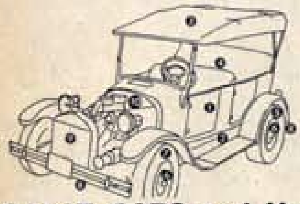
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model car Science

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MODEL MAIL

TABLE TOP HOW

It's about time someone caught on and put out a good model car magazine. Thanks for coming to the rescue. Now, I've a couple of questions on slot racing:

When making a track using copper tape for current pickup, what is the best way for joining ends of the tape? And, when using two or more boards for a running surface, how are they joined so that slot connection is smooth?

MIKE BROPHY
Minneapolis, Minn.

For best electrical connection, overlap tape ends with the upper one pointing with the direction of travel.

To accurately align boards, mount hardwood or metal dowels in board edge and drill receiving holes in mating board. This will insure accurate alignment and also permit track teardown and re-assembly without difficulty.

MAGAZINE SUBSCRIPTION?

Model Car Science Magazine intrigues me very much, as I have long been a model auto fan, but I would like to subscribe rather than go to the corner newsstand. Are subscriptions available?

TERRY BROWN
Pasadena, Calif.

Of course. Subscription rates are $3.50 for twelve issues. Address Model Car Science at 131 S. Barrington Place, Los Angeles 49, California.

NO BIG CARS, PLEASE

After seeing your first issue, which I thought was *pretty* good, I have a suggestion with which I'm sure other readers will agree. Your Great BIG Examples (starting on page 32) was far too lengthy and occupied precious space that should be reserved for models. If you can't eliminate this regular feature, at least cut it down. We all want to see MODELS. O.K.?

PAUL WALSH
Toledo, Ohio

O.K., but with a qualification. Check the article beginning on page 14 and see if it is more to your liking.

FOUND: A NEW FAN

After looking over your April issue I have become interested in the building of model cars. As I have never attempted anything like this before, can you recommend how to start and possibly suggest which kits would be best for the beginner?

CHARLOTTE HIGGINS
Forest Park, Ill.

By way of advice, Charlotte, look through this edition, for we've packed it with kit information and several how-to-do-its in which all model car novices will be interested.

SLOT RACING

Your April issue article on building a race track was very informative, but I would like to see more of this and perhaps a variety of layouts, especially for use in a small space.

GENE ANGELOUS
Newhall, Calif.

Page 34 will interest you, Gene.

MODEL CAR CONTEST

If Model Car Science is going to conduct a monthly contest for readers' cars, PLEASE tell me how to take photographs of the darn little things. I've tried to take shots of some of my models, but all I get are blurred images. What am I doing wrong?

GEORGE BAXTER
Chicago, Ill.

That's pretty hard to say without seeing your photos and knowing the conditions under which you are working, the type of camera, etc. Basically, though, here are a few tips in which many of our readers may be interested:

Photographing a model in strong sunlight will produce strong shadows unless a fill-in light source (as from a flash unit or a reflector) is used.

Many fixed-focus cameras will not give a sharp image if a photo is taken less than three feet from the subject. Rather than moving in too close, photograph from three or more feet away and have the resulting negative enlarged in order to have the image of a size large enough where the car's detail work can be seen. Too, even some of the more expensive cameras cannot be focused much nearer than three feet, so if a close-up or portrait lens is not available, stand 'way back and, again, have the negative enlarged.

An entire book could be written on the subject of table top photography and, indeed, many have. Perhaps we will have a feature article in the future if enough readers request it, but in the meantime the few hints given above may be of some help.

UPHOLSTERING PROBLEM

I have the hardest time upholstering model car interiors, and wonder if there isn't a better solution than trying to glue down bits and pieces of fabric.

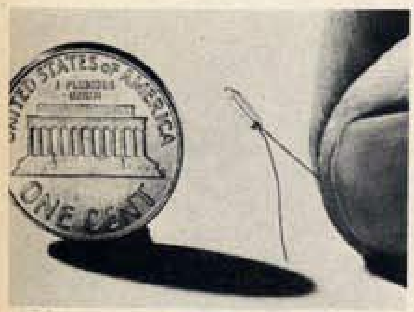
JOEL ANDERSON
Washington, D.C.

Nothing beats realism like the real thing, but a new Spray-On "Funny Fur" looks like it's an up and coming substitute. Check page 25 in this issue for a report on this new product.

NEW TO SCALE



Ready to try your hand at scratch building? This great book from Auto World shows you how to make your own custom bodies, windshields, seats, etc. from wood and scrap parts. Plans include the '55 Ford and '58 Chevy Impala. Send 50¢ to Auto World, Dept. M2, Box 961, Scranton, Pennsylvania.



A new, low cost Micro Miniature bulb has been introduced to the hobby field by Aristo-Craft Distinctive Miniatures, 314 Fifth Ave., New York 1, N.Y. The company produces a variety of miniature bulbs for industrial and hobby use that can be just the ticket for authentic lighting systems.



Aurora Plastics Corp., manufacturers of Model Motoring in HO scale, taking a hint from Detroit, will allow its hobby dealers to accept trade-ins on Model Motoring Fords. Slot racing fans who want to keep cars current, will be able to trade-in old model Fords for 1963's wherever they see this A-1 Ford Used Car lot.

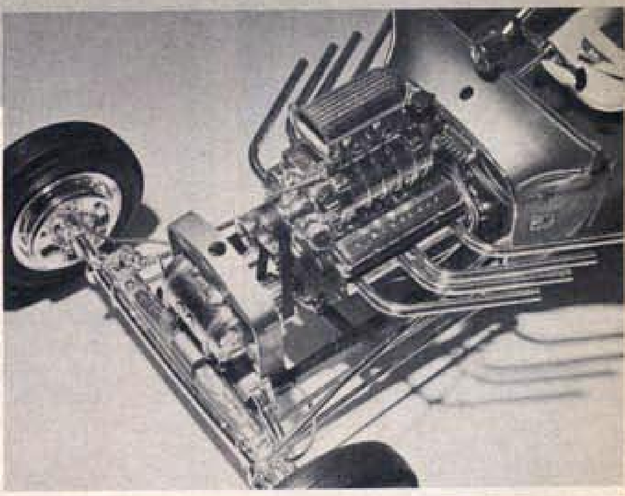
FIRST REPORTS

NEW KITS on their way to you

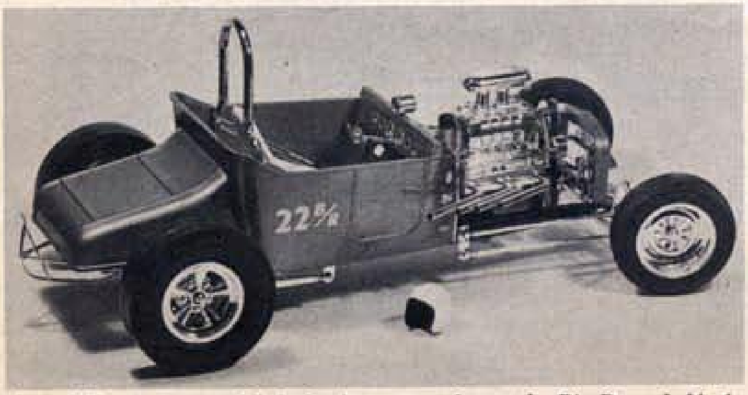


The BIG DRAG

Last year's most sensational model was the "Big T" by Monogram. Now they've done it again with another giant scale (1½ inches to the foot) hot rod, the "Big Drag." With more than 200 precision-manifold plastic parts (about half are chrome), this great kit turns into the show car that you see in full color on our cover. None of the components require painting and all of the latest speed accessories are included.



The original Monogram Big "T" in 1/8th scale was such a hit the company is expanding its line of rods.

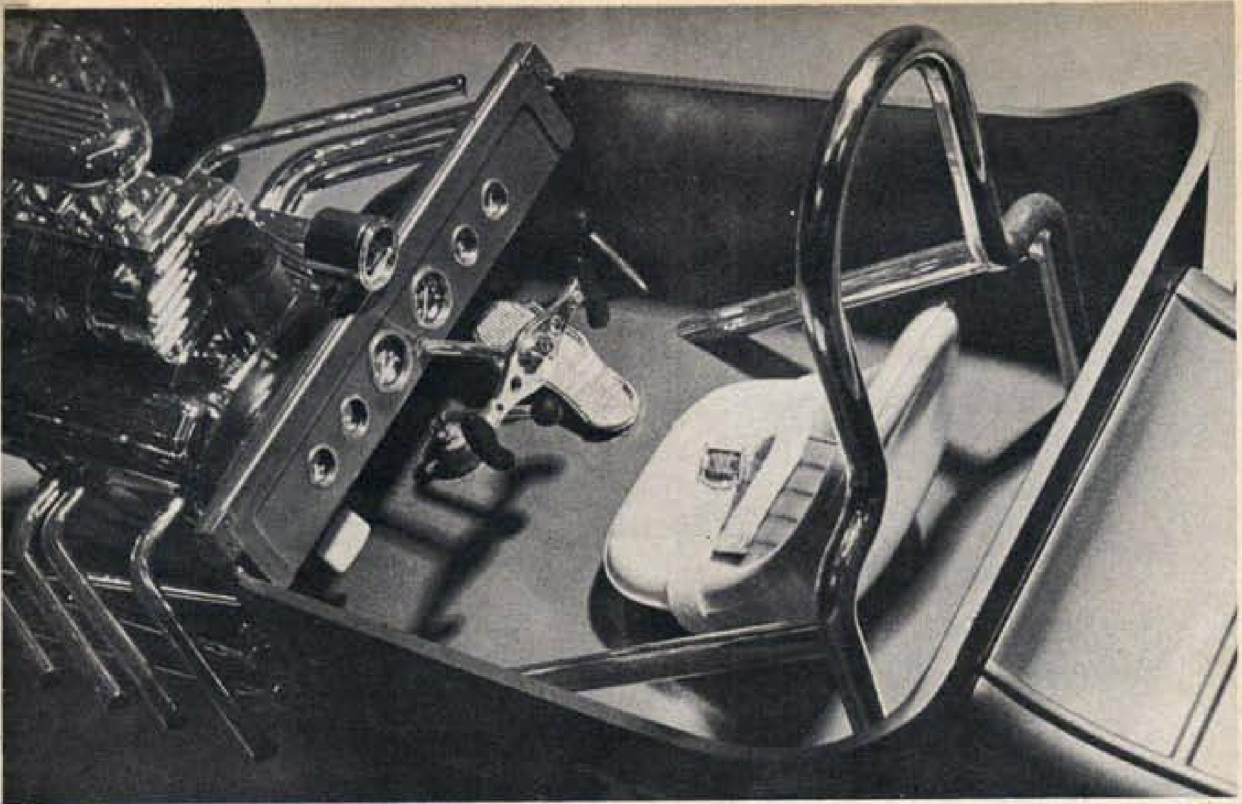


Over 200 precision-molded plastic parts make up the Big Drag, half of the components are chrome plated and the rest molded in four colors.



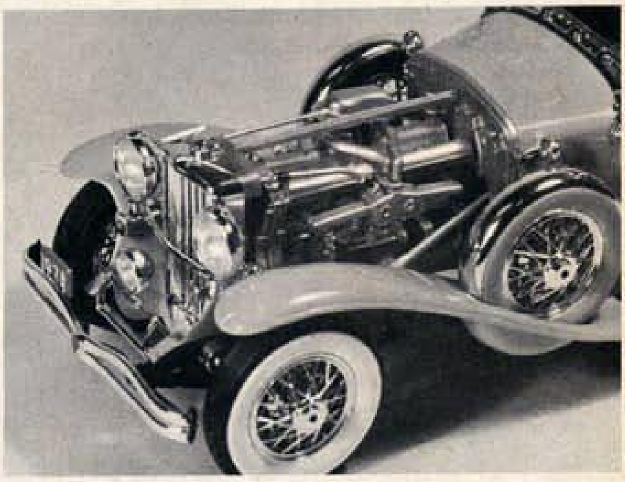
The scale of Monogram's Big Drag makes it 1/8th actual size, making detailing simple.



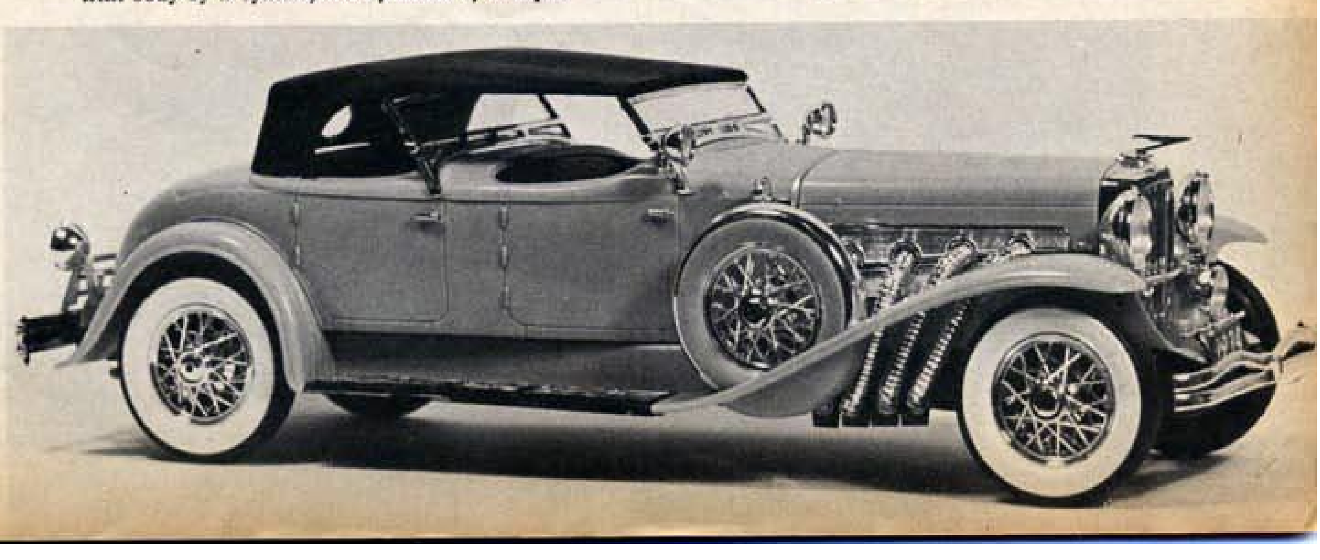


THE GREAT
DUESENBERG

If you had some $21,000 back in 1934, you could have owned the SJ Model Duesenberg. Now you can build an authentic reproduction for $2.98. This new 1/24th scale Monogram kit uses 150 parts to create the 9¼-inch model classic.



Close-up of Duesenberg shows details of supercharged 320 hp engine (right). Below, an overall look at the '34 SJ Model Torpedo Phaeton with body by Weyman; most famous of marque.



FIRST REPORTS



Monogram's fine '55 Chevy can be styled in four ways, customizing suggestions came from famed restyler Darryl Starbird.

Stock '55 Chevy convertible (right) has top down and hood in place. Black tires have whitewalls that snap in position.

The standard Chevy hardtop shows off the classic lines that make the ever-lovin' '55 one of the customizer's favored cars.

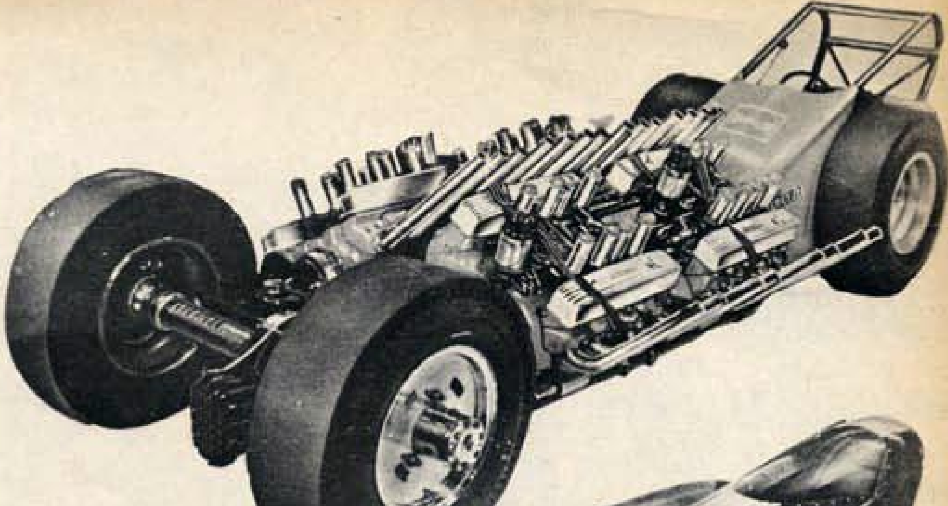






'55 CHEVY

Ask today's big car customizers and drag racers to vote on their favorite cars and the 1955 Chevrolet will be near the top of their list. Monogram now makes this popular one available to modelers in an all-out customizing kit. It includes many accessories for mild to wild customizing designed by top authority Darryl Starbird. The ½-inch scale kit has 130 colored, clear and chrome-plated parts.

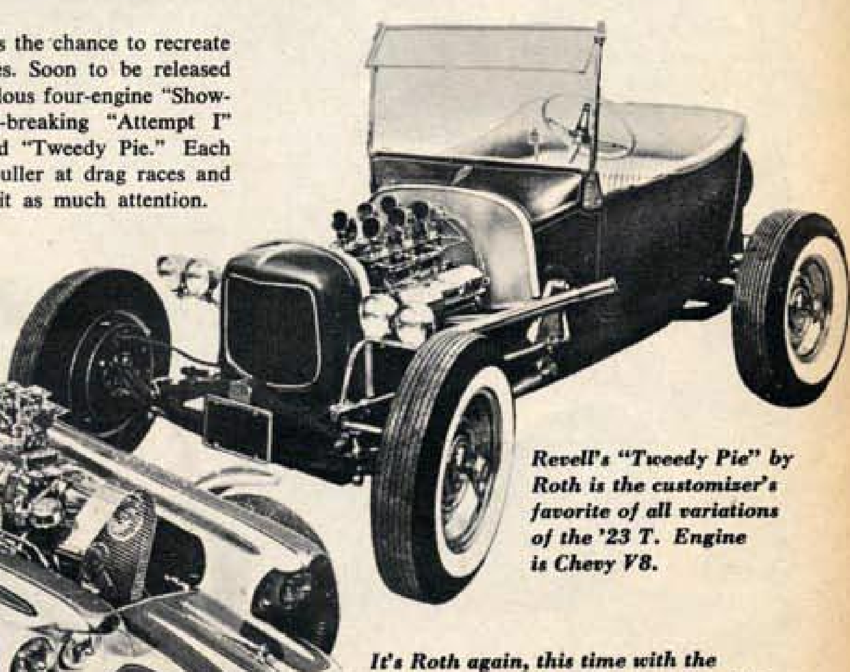




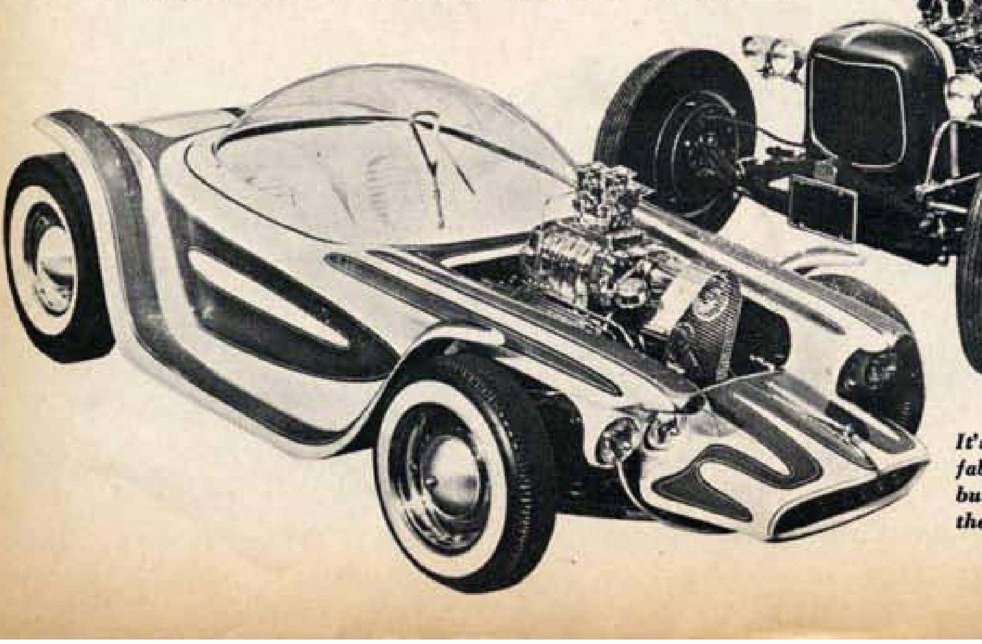
Another of Mickey Thompson's fast machines have been added to Revell lineup. This time it's "Attempt I" in which Thompson set many international speed marks.

SPEED and SHOW AUTHENTICS

Revell is about to offer model car builders the chance to recreate some of hot roddings most famous machines. Soon to be released in 1/25th scale are kits of Tommy Ivo's fabulous four-engine "Showboat" dragster, Mickey Thompson's record-breaking "Attempt I" and Big Daddy Roth's "Beatnik Bandit" and "Tweedy Pie." Each of these distinctive cars has been a crowd puller at drag races and auto shows. The kits should gather every bit as much attention.



Revell's "Tweedy Pie" by Roth is the customizer's favorite of all variations of the '23 T. Engine is Chevy V8.



It's Roth again, this time with the fabulous "Beatnik Bandit" with a full bubble canopy, big Olds mill, and the wildest set of fenders yet.



The moment of decision — when the hundreds of models undergo a close inspection by the judges for state, regional and national winners.

BIGGEST

The Fisher Body Craftsman's Guild Prepares To Award $117,000 In Cash And Scholarships To Model Builders

ONE group of the country's model car enthusiasts roll into high gear as each springtime arrives. These young auto designers get busy carving their "dreams" out of wood or casting them in plaster for the annual Fisher Body Craftsman's Guild model car competition.

At stake are $117,000 in cash and university scholarships that the Craftsman's Guild distributes to the 1078 winners of state, regional and national awards throughout the United States in this annual model building competition.

These awards include eight scholarships valued at $28,000 for the national winners in each of the junior and senior divisions in the Guild. The winners in both the 11 through 15 age group and the 16 through 20 age group will receive a $5000 scholarship for first; a $4000 scholarship for second; a $3000 scholarship for third; and a $2000 scholarship for fourth. In addition, ten $1000 scholarships are awarded to boys showing exceptional design ability.

There are 16 awards in each of the 50 states and the District of Columbia, eight in each age group as follows: 1st—$150 cash; 2nd—$100 cash; 3rd—$50; and five honorable mention awards of $25 each. For judging purposes, the country is divided into 20 regions, each



ROY DICKEY, 21, FROM MISSOURI WON A SCHOLARSHIP FOR HIS SILVER GRAY SPORTS CAR IN MODEL CAR COMPETITION.

MODEL CAR CONTEST OF THEM ALL

of which will send a junior and senior division winner to the expense paid national convention in Detroit in July.

Complete information and instructions regarding the Fisher Body Craftsman's Guild and the construction of a one-twelfth scale model car are available by writing to the Fisher Body Craftsman's Guild, Warren, Michigan.

For the 1963 competition, a new "open" classification has been created in which Guild members may design and build any type of wheeled vehicle for the land transportation of two to six people, according to an announcement by officials of the Craftsman's Guild.

A further addition to the project is the expansion of the sports car classification to include all "new size" automobiles.

The regular size portion of the competition continues as it has in the past. This group features the standard sized sedans, hardtops, convertibles and station wagons.

Many of the models built for entry in the Craftsman's Guild combine the skills of the cabinetmaker with the fingerwork of dentists, the flair of automobile stylists and the rainbow knowledge of the paint maker.

Thousands of these "dream" cars, each about 16 inches long, are shipped to Detroit each year for four weeks of public judging which determines how the Guild will distribute its golden melon.

The futuristic designs and styling innovations introduced on many of the award-winning models are so uncanny in their forecast of what may well be the shape and power of tomorrow's cars that you might say some of these youths have radar eyes capable of piercing the concrete curtains surrounding the styling studios of automobile manufacturers.

About 90 percent of the contestants carve their entries out of wood, using either a single piece or a block of laminated layers of wood. The remainder build their "dream" cars of casting plaster with molds made in sectional pieces from a clay model. Regardless of the material used, the hard, high glosses on the best of the models sparkle with such a metallic sheen that many visitors, examining the cars for the first time, are amazed to discover that the base is mostly wood or plaster.

This illusion has been created by painstakingly applying as many as five to 10 coats of sealer, primer-surfacer and paint. The model has been carefully sanded and rubbed between applications to produce the veneer-like metal smoothness that is so striking. Moldings, grilles and bumpers, which glisten like chrome, are usually fashioned out of soft aluminum bar stock that has been heavily buffed and polished.

One of the most impressive features of the competition, is the never-ending variety of ingenious methods used to build and trim the miniature cars.

For sheer beauty of design and ingenuity of construction, it seems almost impossible that the "dream" cars came from the work benches of boys who use simple hand tools, available materials, a great deal of elbow grease and a reservoir of patience.

This year's competition will end with the shipping of all entries to Detroit before midnight on June 7. The 1964 competition will officially open September 1, 1963.



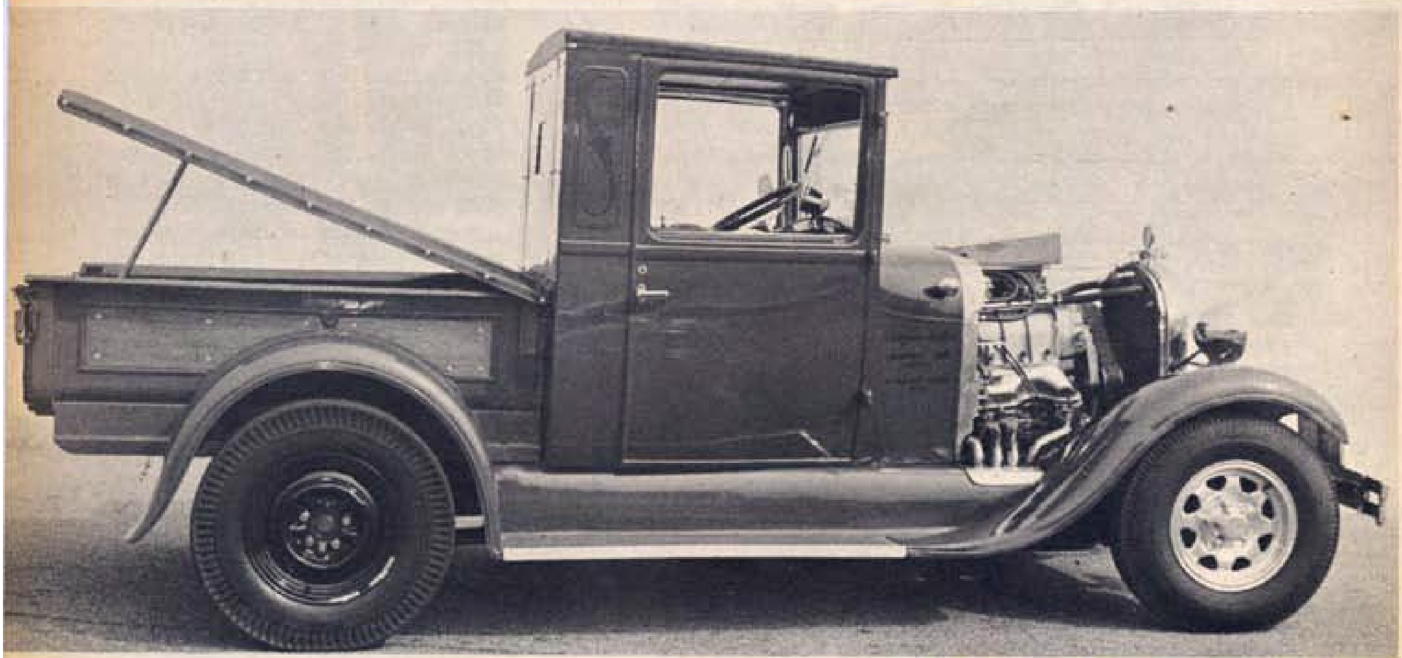


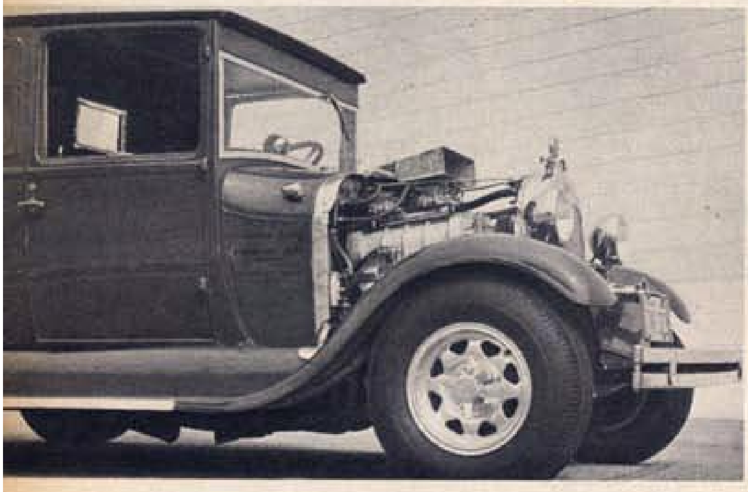
General Motors vice president E. C. Klotzburger, also general manager of Fisher Body, congratulates two $5,000 scholarship winners; Erickson, left, and Dickey.



JUNIOR DIVISION WINNER KERNIE ERICKSON, 15, OF KANSAS, WON HIS SCHOLARSHIP WITH THIS BEAUTIFUL ENTRY.

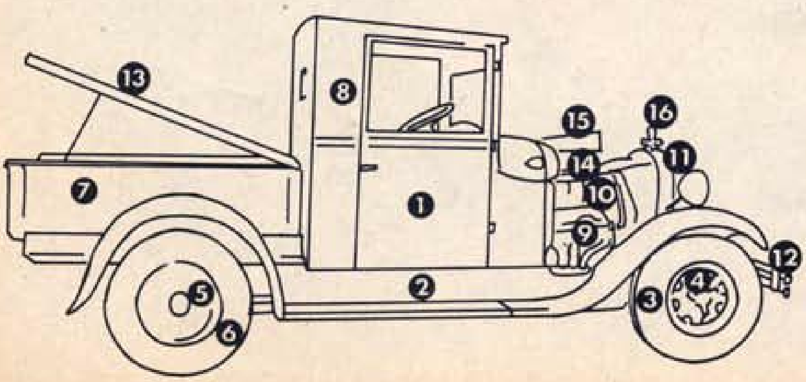
GREAT CUSTOMS ...AND HOW TO





The PHONE BOOTH

The frantic "Phone Booth" will offer the imaginative model fan lots of challenges, as no stock kits available even come close to this wild hauler. Full-sizer has lift-up bed cover, hinged just aft of cab, and a wood-lined bed. Slight rake is due to small mag wheels up front, dropped axle. For engine detail, it's a GMC-blown, 348-inch Chevy using a Weiand manifold adaptor. The genuine article, built by Lee Ryan, is finished in a deep maroon, but modelers might wish to create their own paint job. Basically, the rod is a rare combination of Chevy parts downstairs, but all Ford on top.

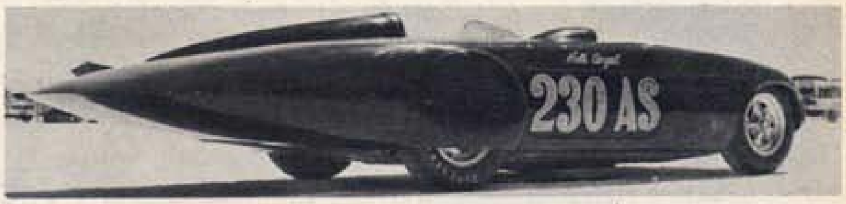


FRAME — AMT '29 Ford Kit

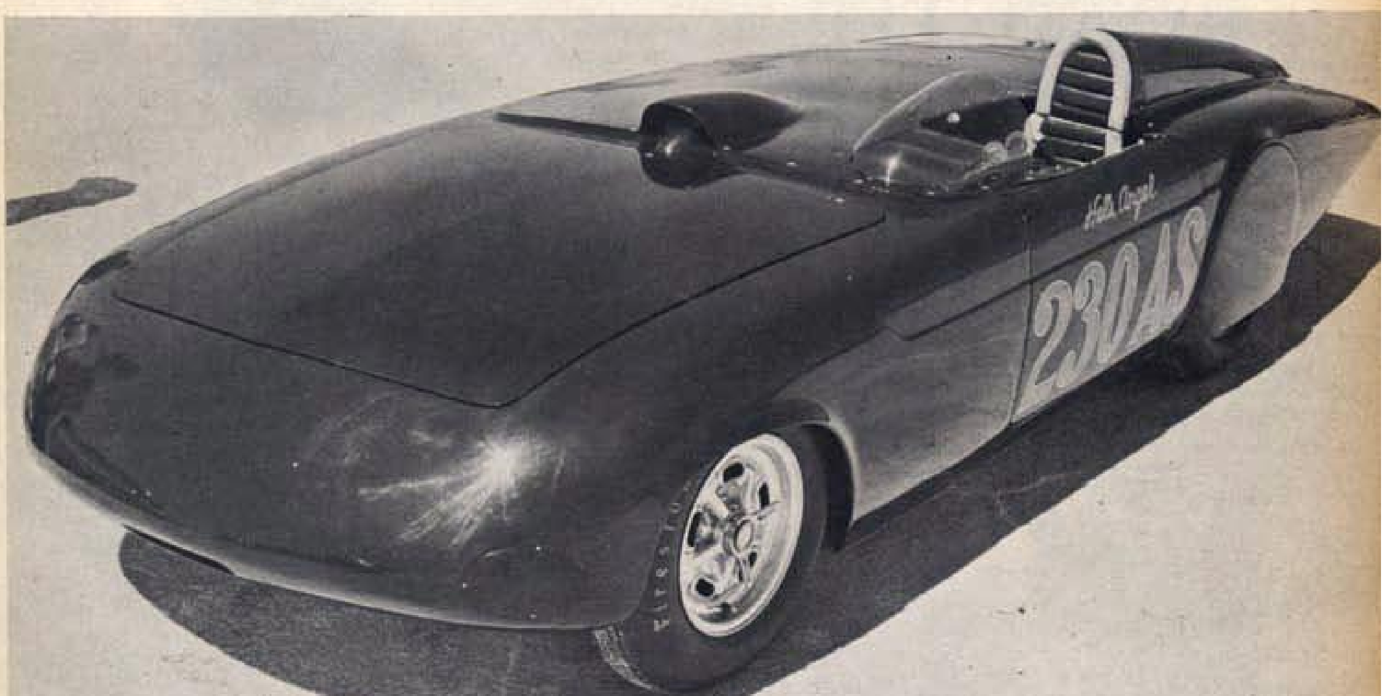
1. BODY AMT '29 Ford roadster body modified by sawing off the back end and building the cab as in step 8
2. FENDERS AMT '29 Ford fenders and headlights
3. FRONT TIRES AMT '63 Corvette Kit
4. FRONT WHEELS AMT '63 Corvette Kit — Hands Magnesium wheels
5. REAR WHEELS Revell Reversed Rims C-1142
6. DRAG SLICKS Revell Competition Car Tires C-1143
7. PICKUP BED & TAILGATE AMT '25 "T" Kit
8. CAB Built up from sheet styrene available from Scuderia Scale
9. ENGINF Chevy "409" AMT '57 Chevy Kit
10. BLOWER GMC 6-71 from Revell's Chysler Engine C-1102
11. RADIATOR & SHELL AMT '29 Ford Kit
12. FRONT BUMPER AMT '29 Ford Kit
13. TARP Made from sheet styrene or cardboard covered with upholstery from Revell's upholstery kit C-1155
14. CARBURETORS Revell's Chevy Engine Kit C-1101
15. AIR SCOOP Made from sheet styrene or cardboard covered with foil from Revell's upholstery kit or ordinary aluminum foil
16. MOTO METER AMT '25 "T" Kit

and HOT RODS
BUILD THE MODELS

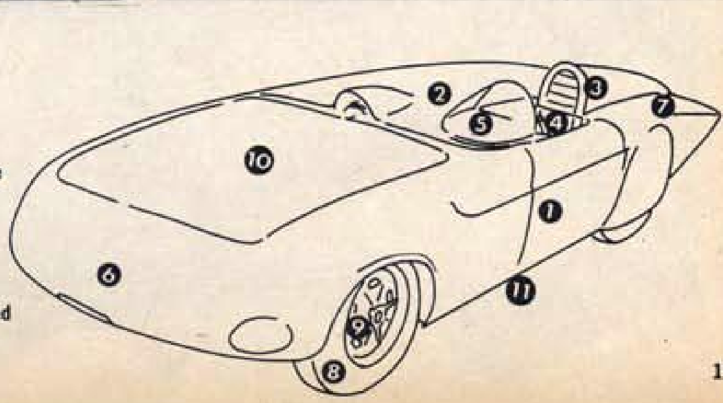
BONNEVILLE T-BIRD



Modelers who dislike adding gimmicks here and there to their models will love the "Bonneville T-Bird," as free of doodads as possible. 'Bird body shell on original machine is devoid of all trim, ornamentation, bumpers, etc., and has beautifully faired nose and tail. Covered rear wheels keep wind turbulence down in this area, certainly adding to the car's fantastic top speed on the Salt Flats of 228.988 mph. This makes the maroon screamer without a doubt the world's fastest Thunderbird. New Orleans, Louisiana, is the home of Knot Farrington who started with a '55 'Bird which now has little similarity to original configuration. Huge engine is a 452 cubic inch Chrysler from a 300 model, mounting a 6-71 blower. Front axle is from '34 Ford.



1. **BODY & FRAME** AMT '57 T-Bird Kit C-1102
2. **TONNEAU COVER** made from sheet styrene
3. **HEAD REST** Revell Competition Corvette Kit
4. **SEAT** Monogram Green Hornet Kit
5. **WINDSHIELD**
6. **BODY FRONT** This section can be made by using sheet styrene (Scuderia Scale) and lots of body putty
7. **TAIL SECTION** made from sheet styrene
8. **TIRES** Strombecker Scarab Kit
9. **WHEELS** Strombecker Scarab Kit
10. **ENGINE** Revell's '58 Chrysler Engine Kit C-1102
11. **BELLY PAN** made from sheet styrene painted deep maroon red



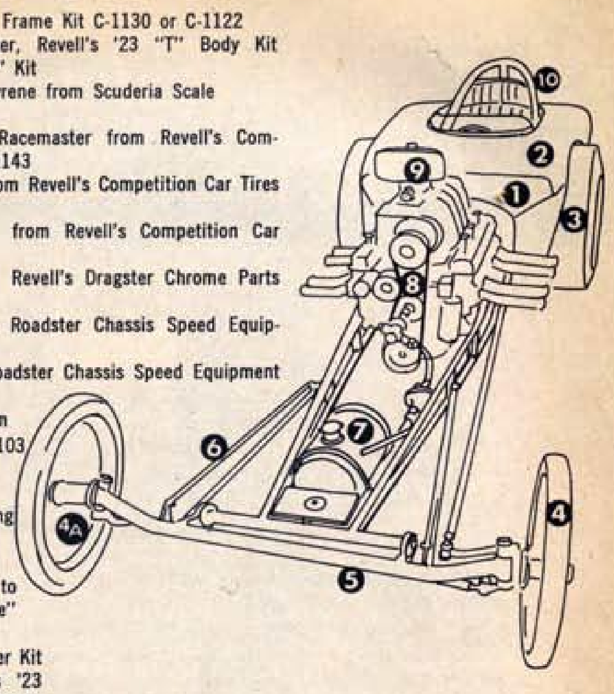


ROADSTER DRAGSTER

Tony Nancy's beautiful roadster-bodied dragster will find favor with the modelers, for the car can be largely assembled from available parts. The big version set a speed of 169 mph and an e.t. of 9.12 seconds soon after its initial trials. Tony will undoubedly go faster in the near future when the bugs that are always present in any new car are eliminated. The body is a CalAutomotive fiber glass '22 T, narrowed with decklid acting as a parachute perch. The engine is a 450-inch Buick with a GMC blower and very short headers. Color is bright red.

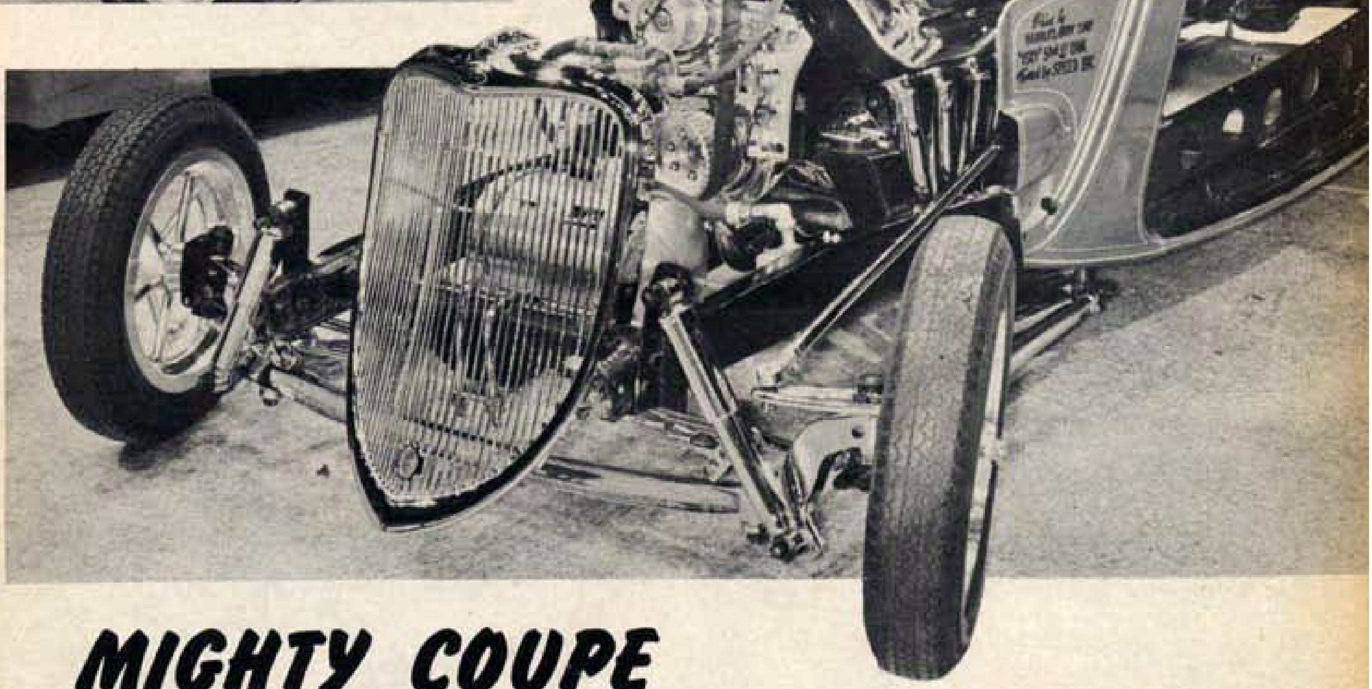
FRAME – Revell's Dragster Frame Kit C-1130 or C-1122
1. BODY '23 "T" Roadster, Revell's '23 "T" Body Kit C-1126 or AMT's '25 "T" Kit
2. BODY COVER Sheet styrene from Scuderia Scale formed to fit
3. DRAG SLICKS M & H Racemaster from Revell's Competition Car Tires Kit C-1143
4. MOTORCYCLE TIRES from Revell's Competition Car Tires Kit C-1143
4A. MOTORCYCLE WHEELS from Revell's Competition Car Wheels C-1141
5. DROPPED FRONT AXLE Revell's Dragster Chrome Parts C-1124
6. RADIUS RODS Revell's Roadster Chassis Speed Equipment C-1132
7. FUEL TANK Revell's Roadster Chassis Speed Equipment C-1132
8. ENGINE Buick V-8 from Revell's Buick Engine Kit C-1103
9. Enderle Air Scoop & Injectors and GMC Blower from Revell's '63 Corvette Sting Ray V-8 Engine Kit C-1107
10. ROLL BAR The Revell Dragster frame kit will have to be modified with plastic "tree" to resemble the real frame.

MAG WHEELS AMT Dragster Kit
Turtle Deck from Revell's '23 "T" Body Kit C-1126 or AMT's '25 "T" Kit
PARACHUTE PACK AMT Dragster Kit
ROLL BAR COVERING Scuderia Scale sheet styrene



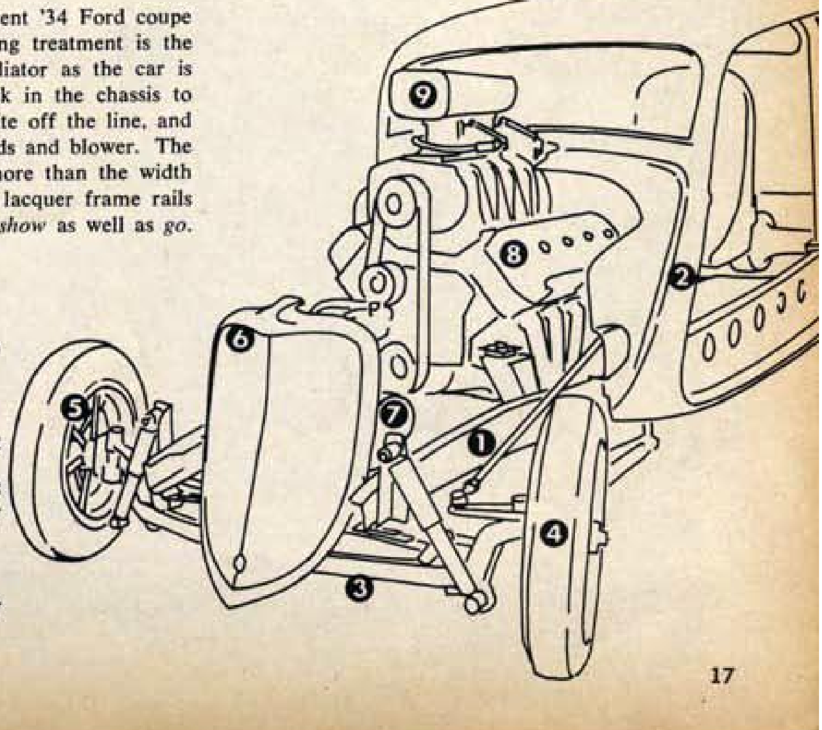






MIGHTY COUPE

Shelton Schmit spent three years building his magnificent '34 Ford coupe which is powered by a blown '54 Chrysler. Interesting treatment is the retention of the stock '34 grille unit but lack of radiator as the car is strictly a quarter-miler. The engine has been set back in the chassis to place more weight on the rear wheels for good tire bite off the line, and the cowl was notched and recessed to clear block, heads and blower. The stock-appearing body has been channeled somewhat more than the width of the frame. It is painted a flaming red with black lacquer frame rails with all removable parts brilliantly chrome plated for *show* as well as *go*.

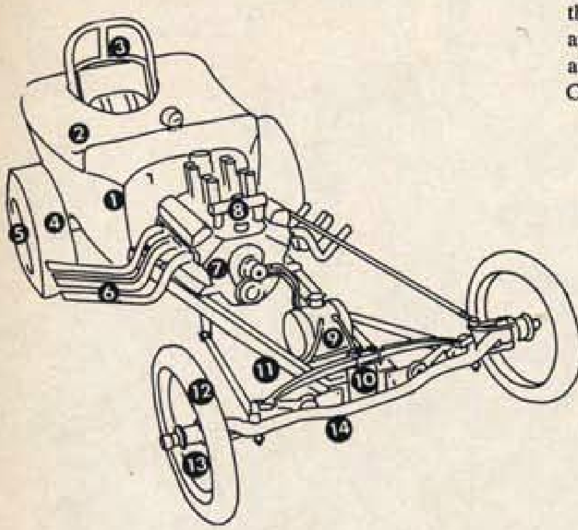


REAR WHEELS & TIRES American Mag Wheels and tires from Monogram's Sizzler Dragster Kit

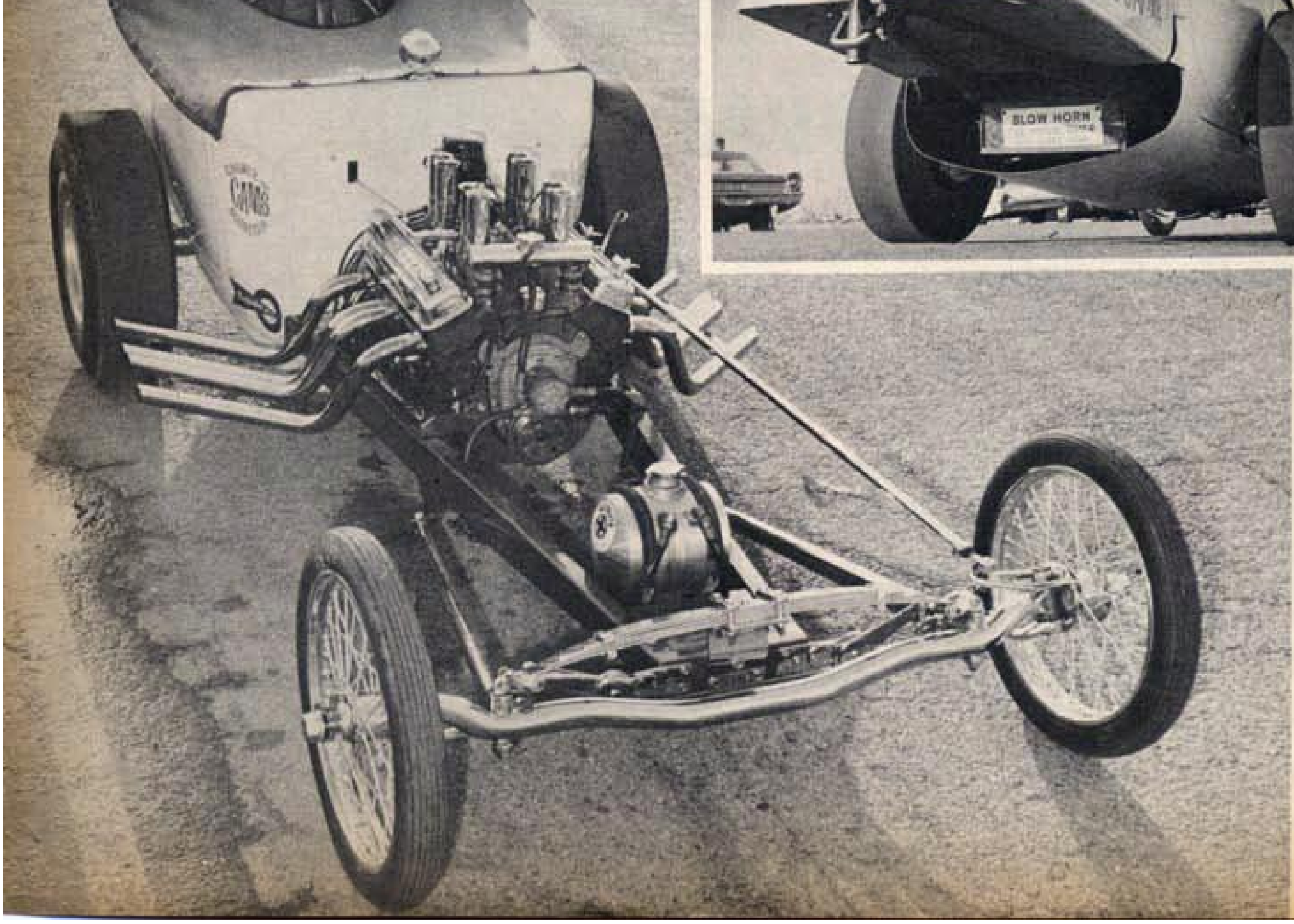
1. FRAME & RUNNING GEAR from Monograms '34 Ford
2. BODY from Monogram's '34 Ford
3. FRONT AXLE Revell Roadster Chassis Speed Equipment Kit C-1132
4. PIRELLI TIRES from Revell's Competition Car Tires C-1143
5. FRONT WHEELS American Spoke Mags from AMT Dragster Kit
6. GRILLE Monogram's '34 Ford
7. FUEL TANK from Monogram's Sizzler Dragster Kit
8. CHRYSLER ENGINE & BLOWER from Monogram's Sizzler Dragster Kit
9. AIR SCOOP hand made from plastic scrap

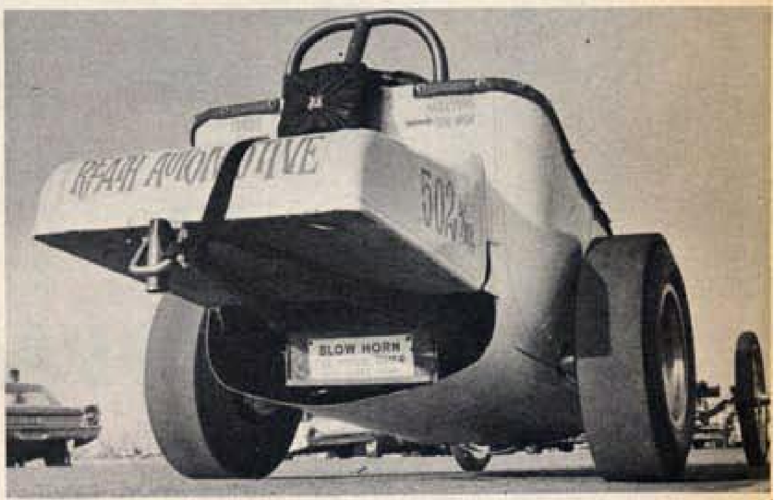
TOP ROD

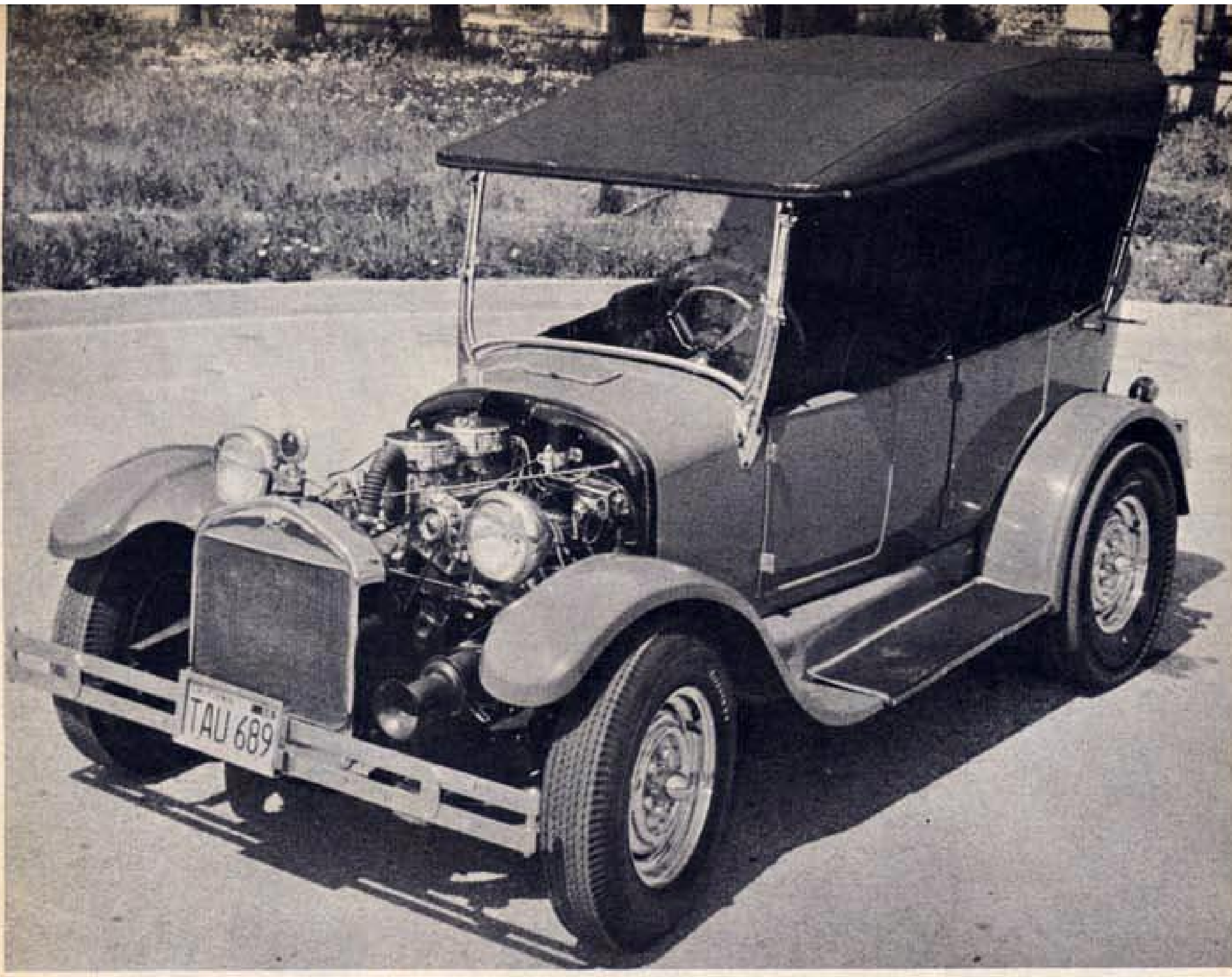
Extremely lightweight frame rails on this roaring roadster by Reath means the modeler can use one of the existing dragster chassis kits available as a starting point. The smooth T body sits 'way back on the frame to place the concentration of weight over the big rear slicks. Front axle is tubular and fitted with light spoked cycle wheels. Top speed is 135.98 mph with an elapsed time of 10.29 seconds, really moving for a B-modified class car. Cockpit is covered with a tarp with only a hole for driver's shoulders.



1. BODY, TURTLE DECK & BELLY PAN from Revell's '23 "T" Body Kit C-1126
2. TONNEAU COVER made from Scuderia Scale sheet styrene
3. ROLL BAR CAGE made from scrap plastic "tree"
4. DRAG SLICKS M&H Racemasters from Revell's Competition Car Tire Kit C-1143
5. MAG WHEELS AMT Dragster Kit or '57 Chevy
6. HEADERS—AMT Dragster Kit
7. CHEVY V-8 from Revell's Chevy Engine Kit C-1101
8. HILBORN INJECTORS Revell's Buick Engine Kit C-1103
9. FUEL TANK Revell Roadster Chassis Speed Equipment C-1132
10. FRONT SPRING AND SHOCKS Revell's Roadster Chassis Speed Equipment C-1132
11. FRAME RAILS Revell's '23 "T" Body Kit C-1126
12. FRONT TIRES Revell's Competition Car Tires C-1143
13. FRONT WHEELS Revell's Motorcycle wheels from Competition Car Wheel Kit C-1141
14. FRONT AXLE hand made from plastic "tree"







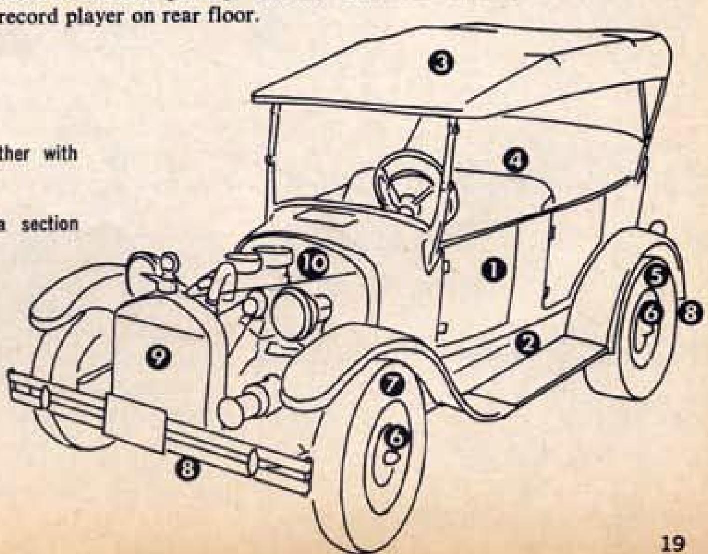


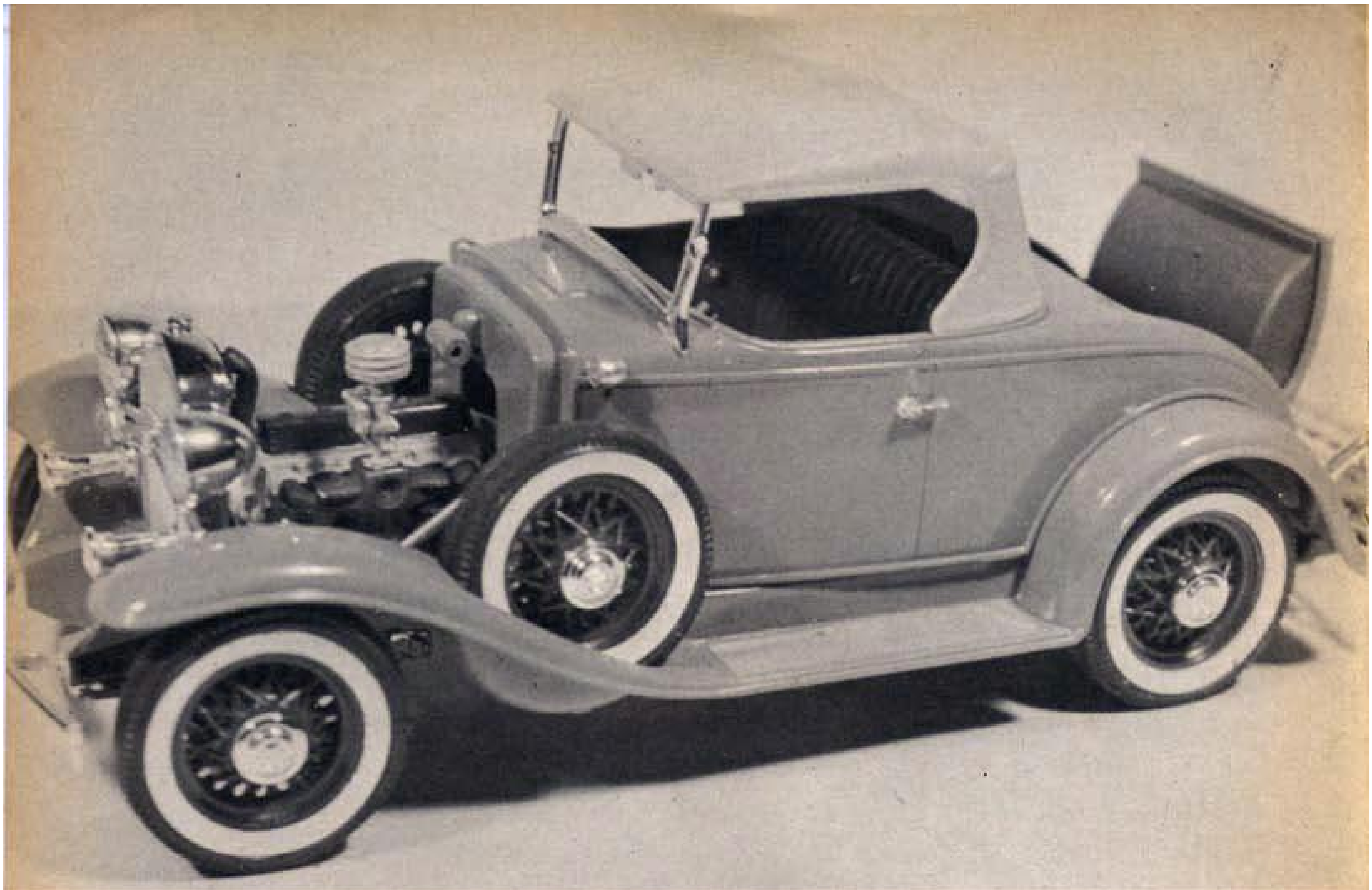
TOURING T

Dick Meyers and his Dad found an old 1925 Model T touring car somewhere, and together they built it into this wonderful re-creation of a famous Henry-built. A 400-inch Chevy V8 fits snugly in tiny Ford engine room, drives an R & T stick Hydramatic (the latter for the detail-minded fan). Stock height windshield gives plenty of vision and headroom for back seat riders when black top is up. Chromed wheels and big rubber aft set the car well apart from the one that Grandad used to own! But Grandad wouldn't recognize his T any more for original black paint has been replaced with gleaming red lacquer, set off by oodles of chrome plating. Interior fans will want to know the T has a record player on rear floor.

FRAME — Revell's Custom Car Frame C-1123

1. BODY Made from two Revell '23 "T" Body Kits joined together with body putty. Windshield frames are also from this kit — C-1126
2. FENDERS AMT '25 "T" Kit
3. TOP The top is from Monogram's '30 Ford Phaeton with a section removed from the middle to narrow it.
4. INTERIOR AMT '25 "T" Kit
5. DRAG SLICKS Revell Competition Car Tire Kit C-1143
6. REVERSED PINS from Revell kit C-1142 or C-1146
7. FRONT TIRES Revell Big and Little Tires
8. FRONT & REAR BUMPERS AMT '29 Ford Kit
9. RADIATOR AMT '25 "T" or Revell '23 "T" Body Kit
10. ENGINE Revell Chevy V-8 C-1101





BUILDING a CLASSIC in METAL

Hubley's New '32 Chevrolet Roadster Kit Lets You Make A Model In A Car's Natural Material

HUBLEY has done it again! This time with the 1932 Chevrolet DeLuxe Roadster. This was one of the best looking cars of the older Chevrolet models. Many thought of it as a small reproduction of the 1932 Cadillac. The car could be purchased with either side or rear mounted spare tires; customers choice. Various color schemes were available, but this particular model was sprayed blue with red wire wheels and trim.

To begin, read the instructions contained in the kit. Then lay out all the parts of the kit, check with parts list and drawing to become familiar with them. Remove all flash and ejection pins.

One step which we found essential in working with these metal kits, is to first pre-tap all screw holes. Use a screw of the type which will later be used in the hole, twist a few turns at a time, backing off repeatedly to clear the metal turnings, then proceed to tap another few threads, backing off and cleaning as you progress. Just about every screw hole may be tapped all the way through. One exception is the assembly of the wheels to the brake-backing plates. These holes are pre-tapped with the "A" type self-tapping screw. This is a "trial and error" assembly. By this I mean, you must screw the "A" screw into the hole in the axle portion of the backing plate . . . a few turns at a time, backing off to clean it . . . and then fit your wheel in place. If your wheel is wobbly, turn about one-quarter of a turn at a time until the wheel is snug and yet turns freely. If you screw the wheel too tightly, it will loosen as the wheel is turned . . . so as stated above . . . "trial and error" is the order here!

The engine should now be worked on. Pre-tap all screw holes and assemble to insure proper fit . . . disassemble and set aside for priming. If your particular taste runs to slight customizing, do this now. It is now possible to solder the zinc die-cast, which is the metal used in these kits, with a new soldering flux called "SAL-MET," which sells for about a dollar a jar. It is also possible to attempt different body styles on this chassis, using the roadster body as a basis. Some of the Hubley 1930 Model A Ford parts can be utilized . . . such as the coupe, sedan, phaeton, pick-up delivery, etc. . . . Even though it is not a true Chevy . . . it can be done, and with a little time, patience, and ingenuity made into a nice model. You may wish to remove the side-mounted spare tires and substitute a rear-mounted spare. If you attempt this, remember to cut off the fender-wells from the underside . . . fill the fender-wells and solder. Careful filing and sanding will produce a nice

job. Make up a spare tire mount by using scraps from the parts trees. This must be in an inverted "V" shape. (See drawing.) A small circle of brass should then be soldered to the apex of the "V," drilled to size, and pre-tapped with an "A" screw the same size as the wheel-mounting screws. This one particular hole may be tapped all the way through for this wheel does not turn. This rear spare mount is used in place of the luggage rack, so do not attempt to use both! Cut or saw the rear bumper at a slight angle about 1/16-inch away from the tire. In other words, make "bumperettes" instead of a full bumper.

Along about here we should begin to think of spraying the primer on the metal parts to be painted. I've used regular auto body lacquer on all the metal Hubley kits and found it best. However, with all the new finishes in spray cans, your choices of finishes are practically unlimited. One thing you must remember . . . if you plan to use lacquer, use a lacquer base or primer coat. Likewise, if your choice is enamel, then use an enamel primer. And remember this . . . you may use enamel over lacquer, but . . . do not use lacquer over enamel unless you wish to have a nice crinkly effect to your model! There are many fine paints available at your hobby dealers. The body itself may be striped, either by hand or using the new striping tape available at your local hobby shop. Some of the more popular finishes on the 1932 Chevy were solid black with either red or cream wire wheels . . . solid blue with red trim and wheels, biege body with slightly darker brown fenders and orange wheels and brown interior. Most of your open cars featured either brown or black leather interiors.

Still another item which will add beauty to your model is a full leather interior. This leather is available from most leather goods shops, and some bookbinders, and is called "Pliver" or "Skiver" by some. Cut the leather slightly wider than the widest point of the seat, and cement to the plastic, working about 1/4" at a time, across the width of the seat. Work the leather into the grooves of the seat with a blunt knife, pencil lead, or such. This leather is somewhat porous . . . so don't use too much glue. After upholstering the seat, seat back, and rumble seat . . . "pipe" the seams with a contrasting color #10 cotton button thread. You can also make leather tire covers either the fully enclosing type, or the old open type. Work this the same way as upholstering your seats . . . a little bit at a time, pressing onto the tire with your fingers. Use the button thread to pipe the seams also . . . makes a really professional looking job and adds realism to your model. One thing I failed to mention . . . use a contrasting color for this piping . . . red or dark brown go well with tan upholstery . . . black with black, tan with brown leather and so on . . . don't use a clashing color, for it will detract from an otherwise good upholstery job. The top of the car many also be covered for more realism . . . by using fine lawn or percale material . . . such as sheeting, an old handkerchief, or such. This too may be piped for added beauty. It may be dyed black, biege or left white.

After your model is thoroughly dry, you may wish to rub it out . . . remember here again . . . use a lacquer rubbing compound for a lacquer finish, and enamel rubbing compound for enamel finish. A final waxing of parts will add real beauty to your model. During final assembly you will now see why it is better to tap all those screw holes in advance . . . makes for far easier assembly, fewer fingerprints all over your finish, etc.

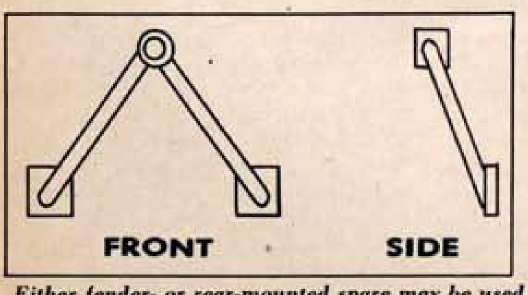
Now you can add this model to your collection of the Model A's, Packards . . . and let's hope that Hubley will continue to add to this line. There are many body styles possible and with the detail incorporated in the Chevy and Packard kits, they will be hard to beat.



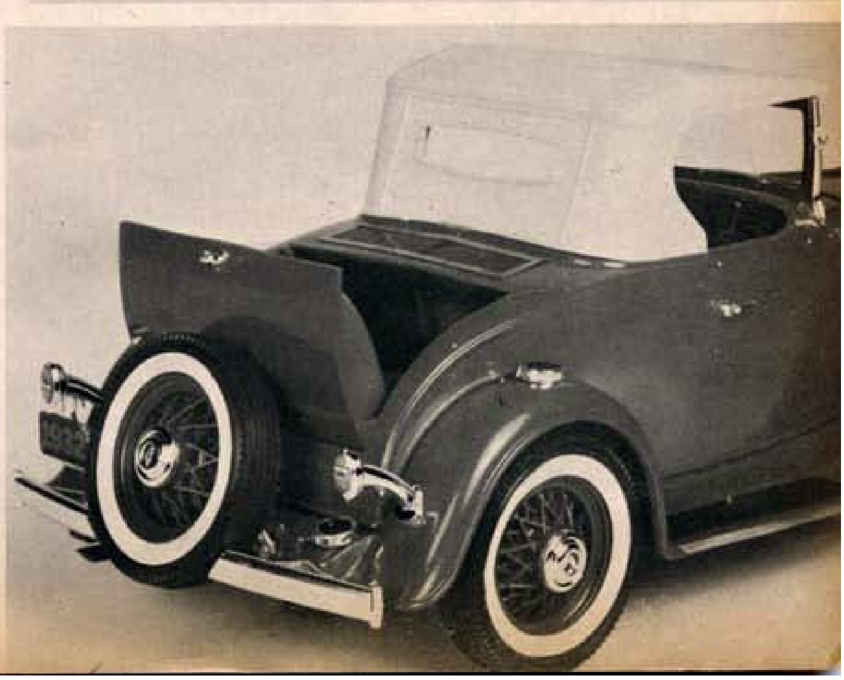


Pre-tapping screw holes is necessary to guard against damaging painted model during assembly.

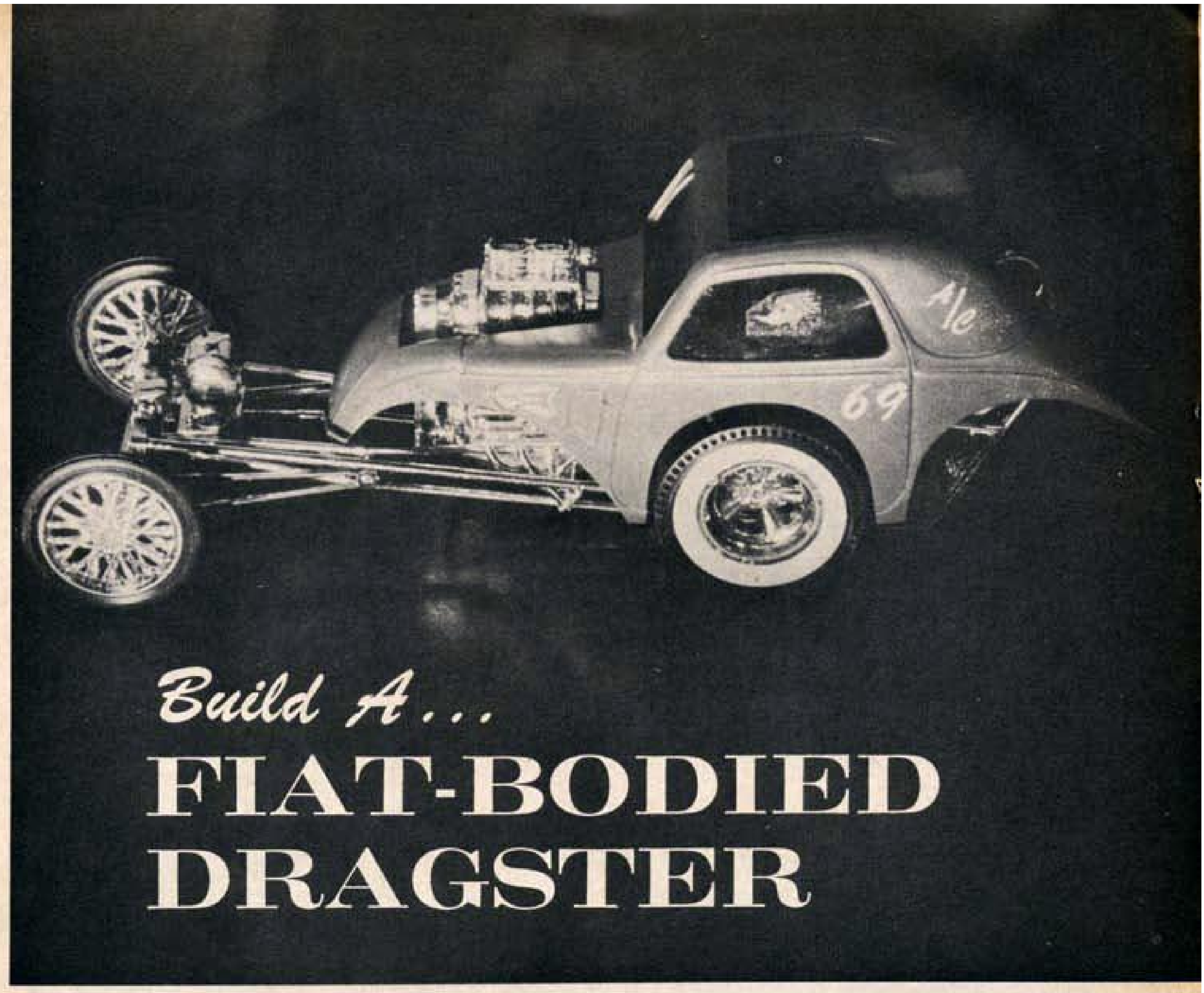
Prefitting of all parts, at right above, assures perfect match of components. Filing may be needed.



Either fender- or rear-mounted spare may be used. This is the wheel bracket for putting spare aft.

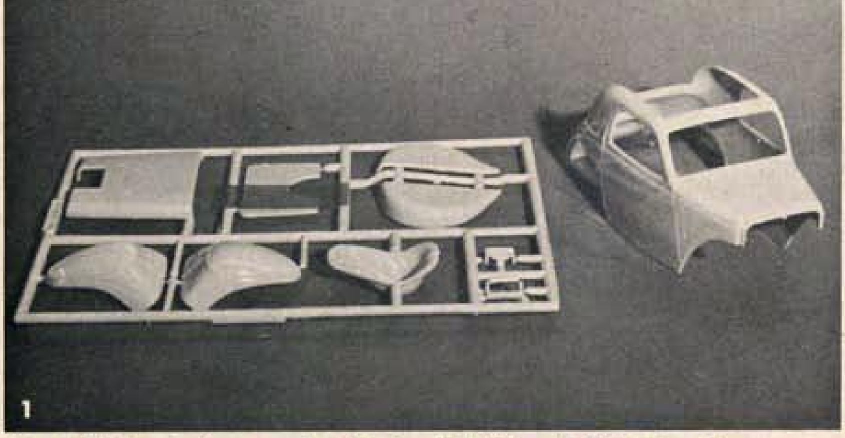


The rear-mounted spare lends the Chevrolet great authenticity, as many cars were equipped like this.



Build A . . . FIAT-BODIED DRAGSTER

Hot Rodders Everywhere Recognize This Hot Machine As A Drag Champ . . . Here's How You Can Build the Model



1

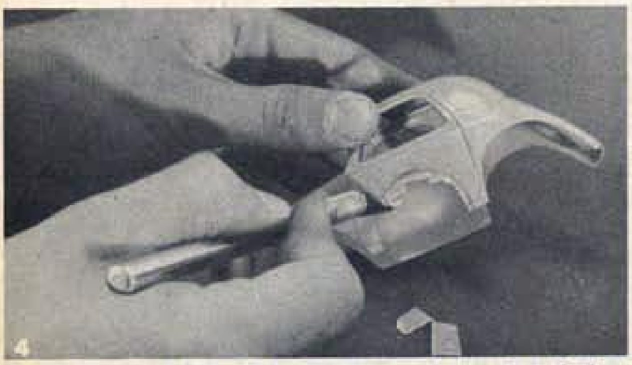
Here is the heart of your project, the Revell 1/25th scale Cal Automotive Fiat body kit. It is complete with belly pan, firewall, fender wells, Fiat nose sections and a replica of a Tony Nancy upholstered bucket seat.

By Jim Warren

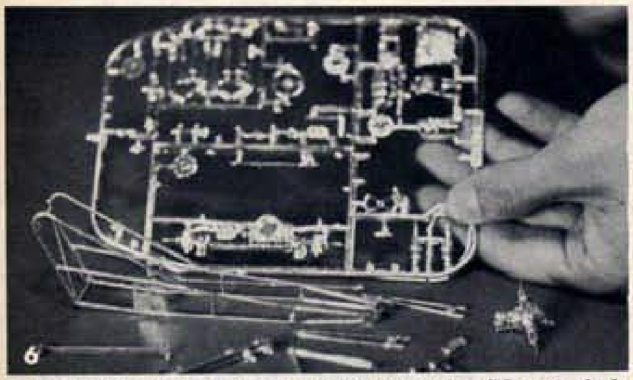
One of the wildest types of competition cars to be found performing at the nation's drag strips is the altered coupe. A "wolf in sheep's clothing" is the only way to describe these powerful machines that are really dragsters wearing the outward skin of usually mild sedans. One of the most popular bodies used in this class is the fiber glass version (by Cal Automotive) of the Fiat shell. Since there are no complete kits available for this altered coupe, MCS will show you how to build a complete car utilizing a Revell 1/25th scale Fiat body and other Revell Custom Car parts. You will need the following parts and tools: X-Acto knife, small file, #400 and #600 sandpaper, razor saw and pliers, Dragster Speed Equipment, Fiat Body kit (C-1129), Dragster frame kit (C-1130 or C-1122) Roadster Chassis Speed Equipment (C-1132), plus wheels, tires and engine of your choice.

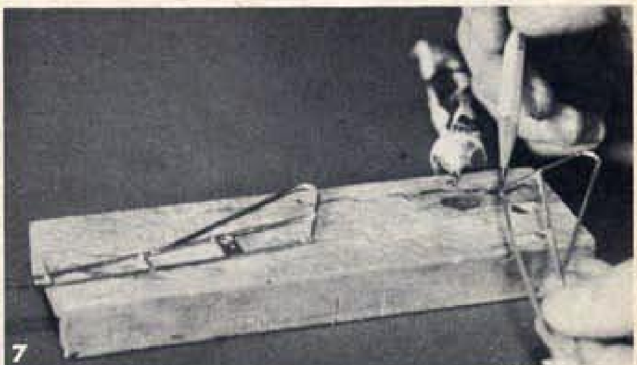

2
New wheels must be measured and cut. Use a drag slick tire to get the correct radius and make cuts with knife.

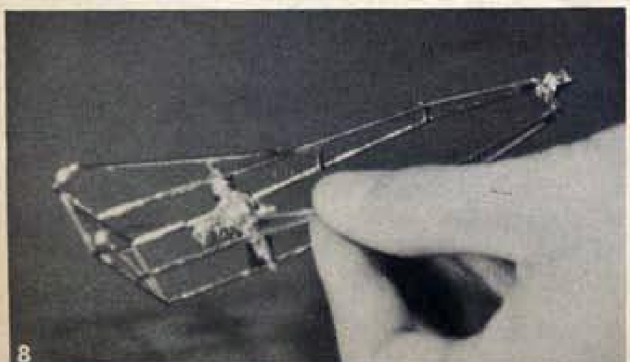

3
After the strips have been cut with the X-Acto knife, carefully remove the pieces through the use of pliers.


4
Finish trimming with the knife, then sand smooth with the #400 paper and finish the job with #600 sandpaper.

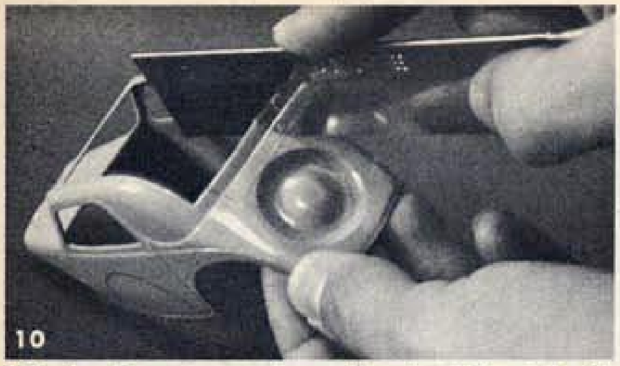

5
Cut a hole in the hood and nose piece large enough to accommodate the engine and supercharger you have chosen.


6
Remove parts from dragster chrome parts kit. These include front and rear axles, radius rods, pedals and Pitman arm.

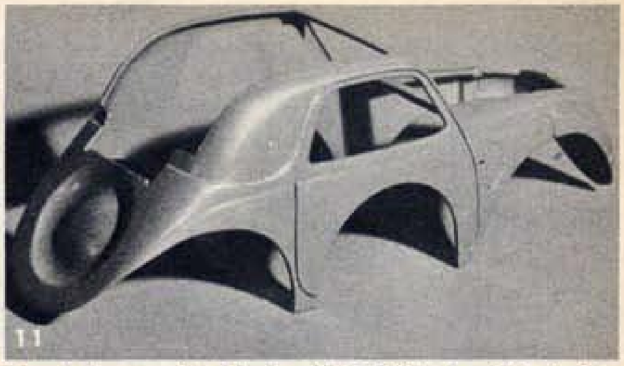

7
In assembling the frame, scrape cnrome away before you cement. Apply cement with the point of a sharp pencil.


8
Now it is time to assemble the authentic quick-change rear end. The completed assembly fits into the frame.

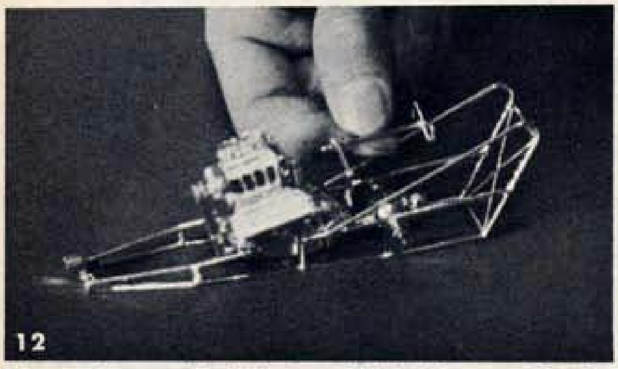

9
Using the "X" rear member of the frame, measure an area as shown in the rear of the Fiat's plastic body.



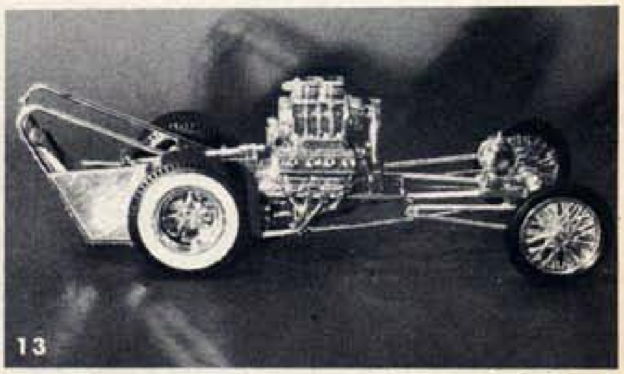
Following the measurements exactly, cut out the notch with an X-Acto razor saw and remove parts with pliers.



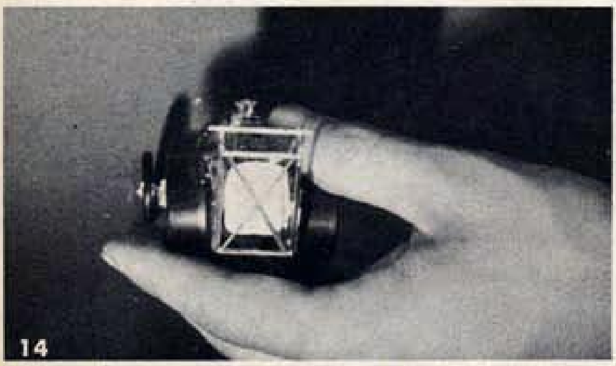
Here is the completed body with its finished paint job. Be sure and take the time required to get a fine paint finish.



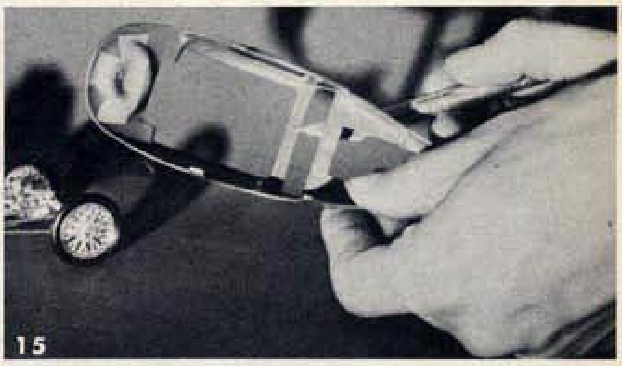
The steering gear should be assembled and cemented to the frame. This is followed by firewall from dragster frame.



Cement the engine in place, mount the tires and wheels and add the Moon fuel tank from Roadster speed equipment kit.



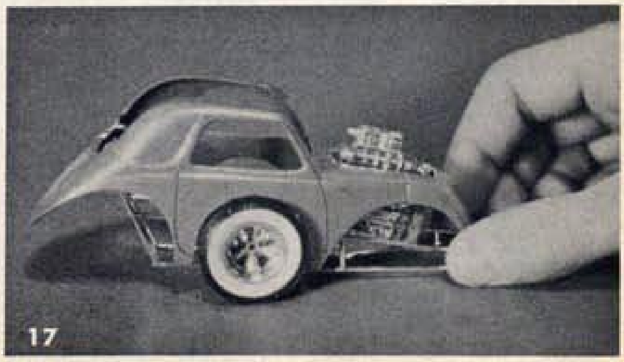
Famous hot rod upholstery specialist Tony Nancy designed this bucket seat that now fits right into place on frame.



One of the last steps is cementing the windows in place. Be extra careful not to use too much cement and spot windows.



The added touch of authenticity comes with the application of speed equipment decals. Use X-Acto knife for removal.



The completed machine shows off its big injected Chrysler engine, drag slicks and other all-out speed accessories.

SPRAY-ON FURRY UPHOLSTERY



A WIDE RANGE OF FUNNY FUR COLORS ALLOWS THE DETAIL-MINDED MODELER TO COMPLETELY UPHOLSTER THE INTERIOR OF HIS CAR. FIRST APPLICATION IS TO PAINT AREA WITH COLOR-MATCHING ENAMEL.



FUNNY FIR ADHERES TO WET ENAMEL AND WILL STICK WHEN PAINT HAS DRIED. MATERIAL CAN BE USED ON DASHBOARDS, FLOORS, DOOR PANELS, HEADLINERS AND, AS SHOWN HERE, TO THE SEATS.

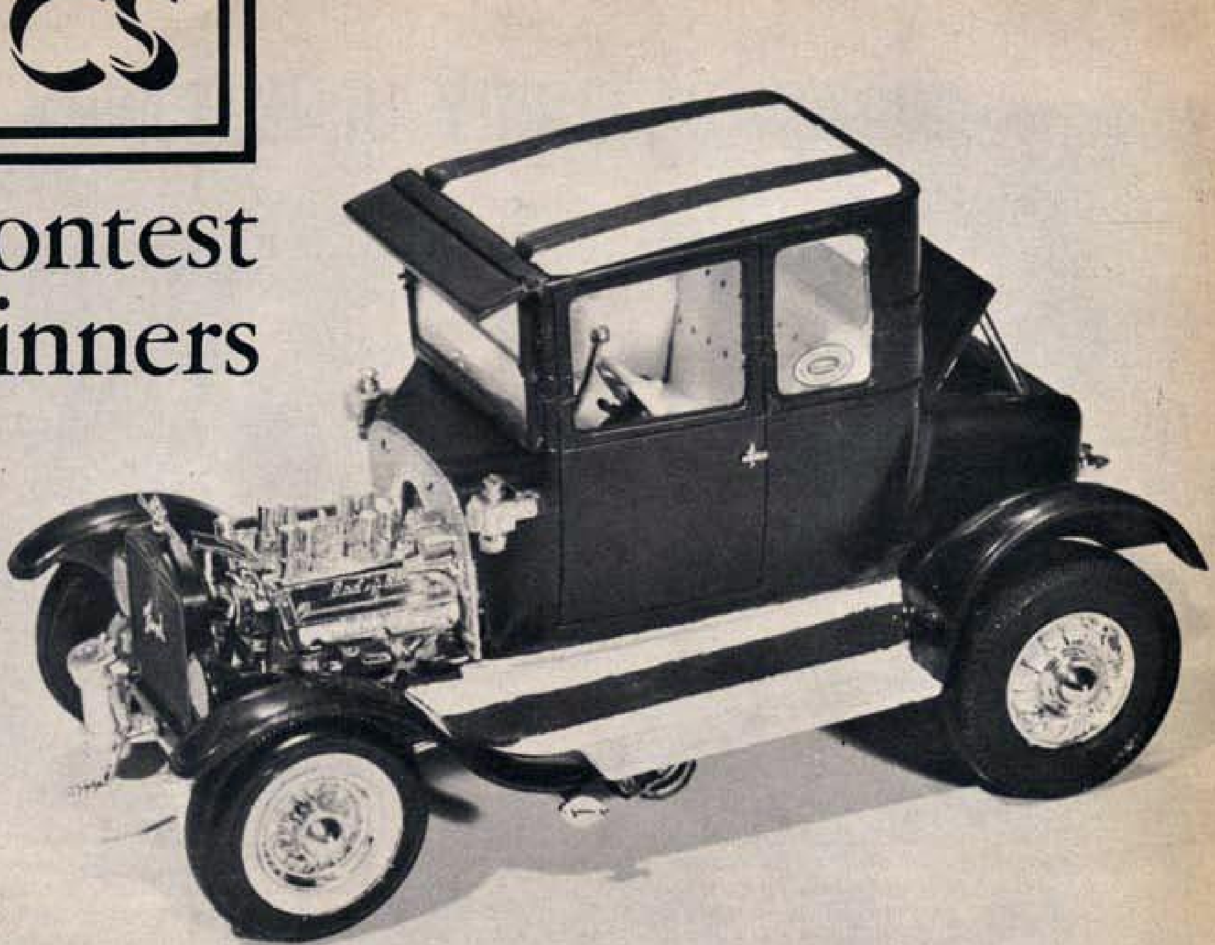


THE SPRAY-ON UPHOLSTERY COMES IN A HANDY VIAL WHICH PERMITS SIMPLE APPLICATION. THIS UPHOLSTERING METHOD IS SO SIMPLE THAT IT BEATS OLD-STYLE MATERIAL-APPLYING A HUNDRED TO ONE.



THIS IS HOW THE FINISHED MODEL LOOKS AFTER FUNNY FUR HAS SET UP. WILD MULTI-HUED COLOR COMBINATIONS CAN BE ACHIEVED BY CAREFULLY PAINTING VARIOUS AREAS IN DIFFERENT SHADES.

MCS Contest Winners



The winnah! Bill Maunder's 1/25th scale '25 T coupe, built from two AMT T kits and a Revell "Ala Kart." The headlights work, interior is detailed out.



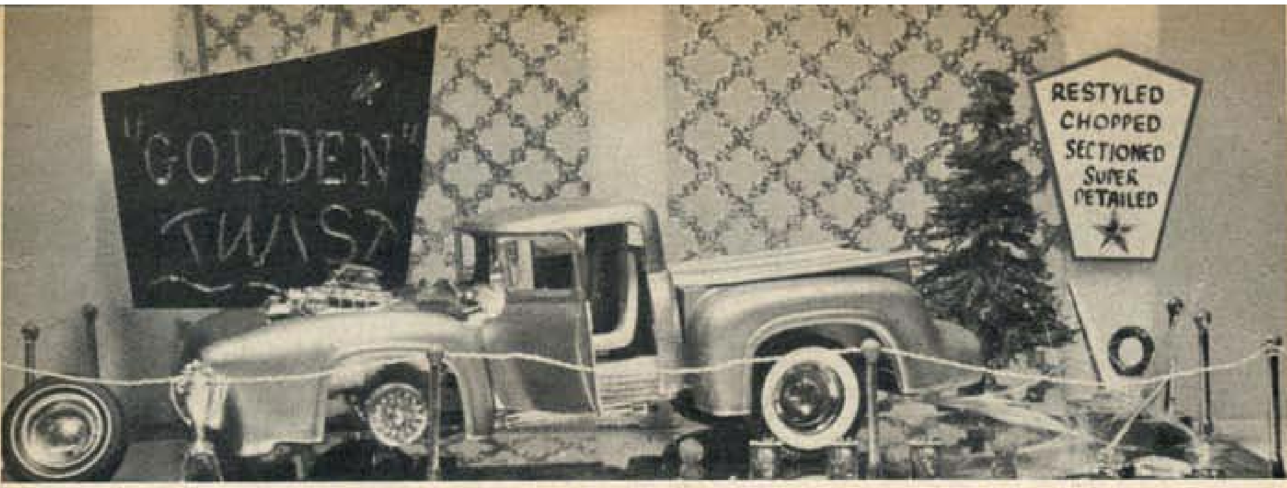
Fifteen-year old Bruce McDowell of Hampton, Iowa, used so many kits in assembling his pickup, he can't remember them all; but he wins second prize.

PRIZE-TAKING CUSTOM MODELS FROM OUR READERS

Last month's Model Car Science Contest buried us under a mountain of mail as entrants from all corners of the country responded to our plea for photos of what our readers felt were their best models. All were vying for the top $25.00 prize, but six lucky runners-up will be rewarded with 12-issue subscriptions to MCS.

Bill Maunder of Butte, Montana, walked off with highest honors by sending us his photo of a well known T coupe—constructed from *two* AMT '25 Model T's. The undercarriage was pirated from the "Ala Kart" and the headlights really work.

MCS will conduct a separate contest each issue, so get that model finished and your camera out — time's a-wastin!



"GOLDEN TWIST" IS WHAT TEXAN CHUCK BEAUCHEMIN CALLS HIS CUSTOMIZED VERSION OF THE REVELL '56 FORD PICKUP.



Ken Ross, of Paramus, New Jersey, radically customized a '57 'Bird, and with it takes this month's 4th place.



"The Enchantress," originally a '50 Ford, is Carl Askenback's entry, hailing from Westport, Connecticut.



Ed Masselink, Jr., is this months 6th place winner, with this much-modified model, built in Michigan.



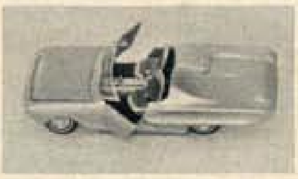
Mike Yamashita's fantastic Pontiac has working power windows, as well as all lights, suspension all around, and has been sectioned 1/8 inch.

a MODEL CAR SCIENCE *Contest*

FOR MODELERS EVERYWHERE . . .

Each month the editors of MCS will select, from PHOTOS submitted, the top model car. It will be shown on these pages and its owner will receive a $25 PRIZE.

SEND A PHOTO OF YOUR PRIZE MODEL TODAY TO:

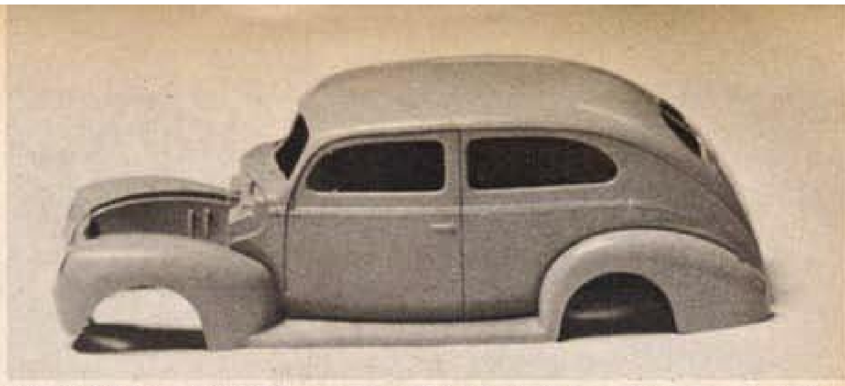


MODEL CAR SCIENCE
Contest Editor
131 So. Barrington Pl.
Los Angeles 49, Calif.

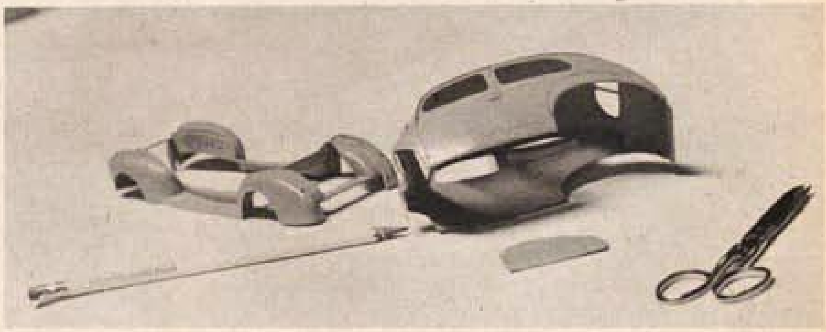
You may submit as many entries as you wish. Send photos only, please. NO KITS. Include your name, address, age and information on how you built the model. Only CAR models are eligible. We cannot return any photos submitted.

A SIMPLE YET EFFECTIVE CUSTOMIZING TRICK PUT TO WORK HERE ON AMT'S '40 FORD KIT

by Spence Murray



The AMT kit is a faithful reproduction of Ford's '40 2-door sedan, and the model can be channeled up to 1/4-inch — eight scale inches — very easily.



Cardboard template is made of fender cutout in body and outline traced 1/4-inch higher with pencil. Lines are also scribed on straight lower body sides, cowl.

a modeler's how-to-do-it CHANNELING

ONE of the frequently used but least understood customizing terms is channeling. Reference is made to this phase of restyling at car shows, in auto magazines, and wherever customizers congregate. Yet more often than not the word is used incorrectly. Before we begin this treatise on hacking into the '40 Ford, it would seem a definition is in order.

There are three basic, major body modifications performed to reduce a car's overall height. The first, chopping, is defined as the lowering of the roof by reducing the height of the window posts. The second is sectioning, one of the most difficult body surgery tasks, and refers to the removal of a horizontal section of metal from the car's waist. The third, is, of course, channeling. By definition, channeling means the *raising* of a car's floor thereby lowering the body down around the chassis.

None of the three operations are easy and all require that the car be at least partially dismantled. In the cases of chopping and sectioning, metal is cut from the body, the upper portion lowered to a new position, and the severed panels and posts reunited and finished off. The jobs are time consuming and require the talents of a highly qualified expert.

Channeling is no less difficult, but on older model cars it can be accomplished with little exterior body modification, particularly if the fenders and running boards are left off as on a competition car or fenderless street rod and the body is merely allowed to hang below the frame.

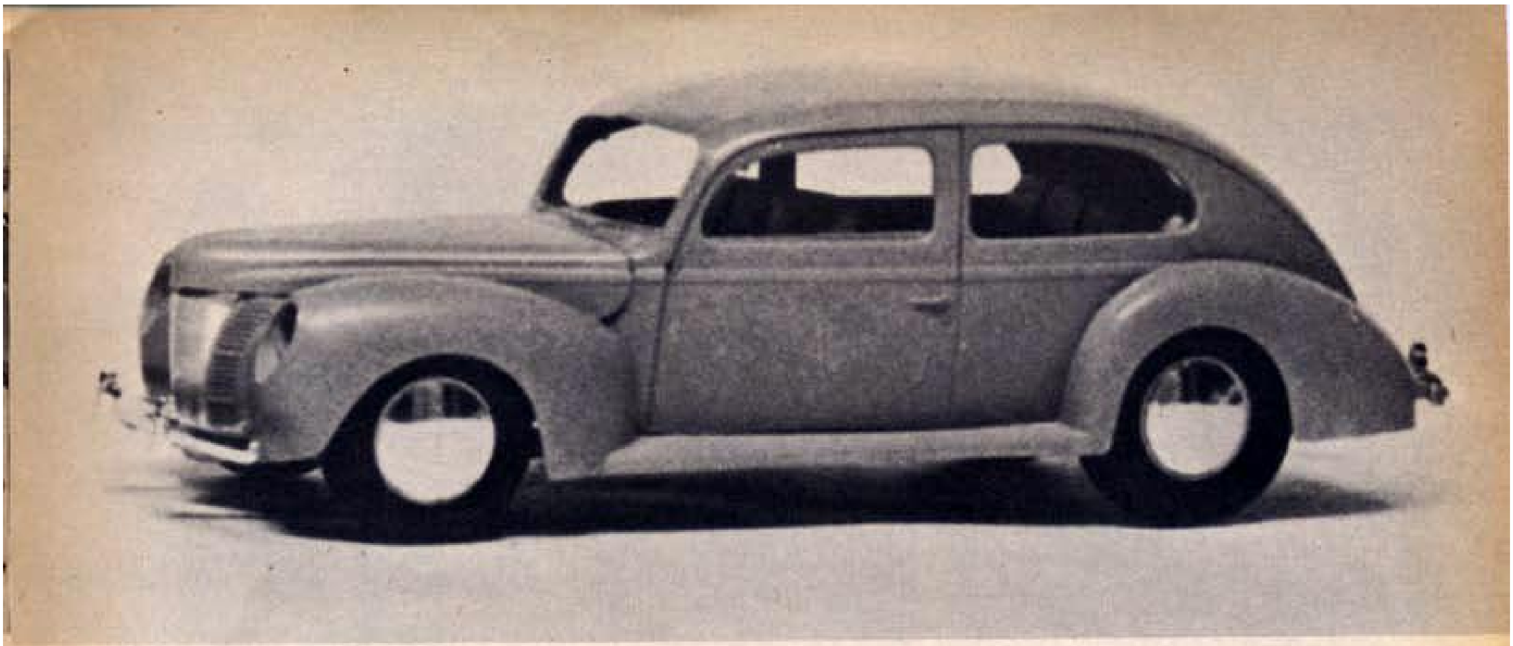
Later model cars, say from '49 on up,



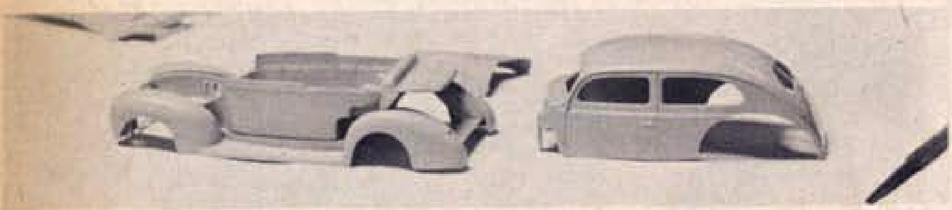
We used a Dremel Moto-Tool for radiusing cutouts, but Xacto knife or razor blade can be used. Cut is made shy of line, brought to size with small file.



When cowl cutouts for front fenders have been reshaped, body and fender assembly are checked for fit. Final sandpapering brought parts into proper relationship.



are constructed in such a way that channeling has few advantages, especially in view of the fact that after that year fenders had become an integral body part and running boards had disappeared. But cars built between the years '34 and '48 invite channeling. If the fenders and running boards are to remain, then the lower portion of the body must be trimmed off equal to the amount of the channel job. The end result gives a pleasing appearance; overall height has been satisfactorily lessened, yet ground clearance and resulting roadability remains unaltered. In other words, running gear, chassis, fenders and running boards remain as before, and the body is dropped down around and between them.



AMT Ford model has separate interior which must be sectioned to conform with amount of channel job. 1/4-inch strip is cut from interior sides, floor recemented.



Channeling means dropping body between fenders, so hood no longer aligns with cowl. A 1/4-inch section is filed from around the lower sides of the hood.



The job gives somewhat the same effect as sectioning, but on the year models with which we are concerned channeling is the more highly recommended.

Channeling a model is a departure from the more normal body alterations. To illustrate how best this can be done and produce a slinky custom that would turn heads in the full size version or small, we chose AMT's fine example of the 1/25th '40 Ford two-door – though coupes and convertibles of any make from the years being discussed can be similarly treated with equally pleasant results.

The accompanying illustrations show the task at hand. It is not a complicated job and requires few tools. Suffice it to say assembly of the channeled version takes but little more time than building the stock kit. Naturally, care and forethought are a necessary prerequisite and the trial fitting of pieces is required before final cementing. For tools we had lucky access to a Dremel Moto-Tool, though an X-acto knife would have accomplished the same thing. In addition we used a flat and a round file, a pencil and a pair of scissors. The photographs show the steps involved.

Other than severe channeling, our '40 remains in stock form. Of course, many other alterations may be performed, as filing off the doorhandles and chrome trim, top-chopping and lowering. But these can be performed after the channeling is completed and are irrelevant to our discussion at this time.

The major components of the AMT Ford, three of them modified for channeling. Back seat interferes with inner fender panels, so latter must be cut away.



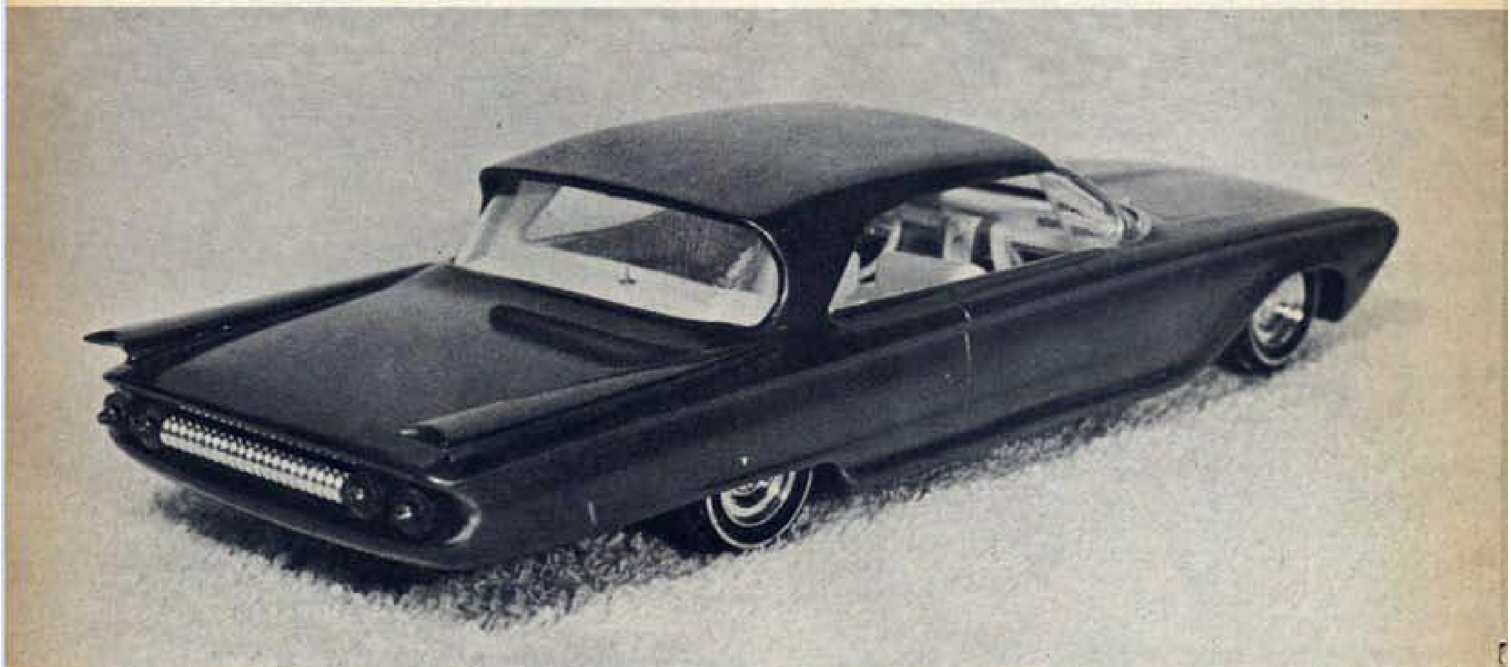
McMODEL the MASTER BUILDER
OH BOY! JUST WAIT 'TIL THE JUDGES SEE THIS LI'L JEWEL... I'LL WIN ALL THE PRIZES AND TROPHIES!
HI, LITTLE BUDDY
OOOPS!
m.c.s
WHAT WAS THAT?
A HURRICANE?
NOPE, JUST McMODEL SCROUNGING LEFT-OVER PARTS!
D'YOU THINK HE CAN BUILD A MODEL BEFORE THE JUDGES REACH HIM?
5
6
OH NO!
AMAZING!
WOW! WHAT ORIGINALITY!
... COMPLETELY NEW CONCEPT!
9


OH, WELL, ACCIDENTS WILL HAPPEN!
SOB
SAY, McLAUGHLIN, YA GOT ANY LEFT-OVER PARTS? MAYBE I CAN BUILD SOMETHING BEFORE THE JUDGES GET UP TO ME!
SURE!
M.C.S
THANKS FOR THE SPARE PARTS, FELLERS!
ACCIDENTS WILL HAPPEN, HE SAYS --- PHOOIE!!
HERE COME THE JUDGES!
WELL, ACCIDENTS WILL HAPPEN!
Grand Whammy de MODELS
1st
MCS
McMODEL SALUTES THE IDYLWOOD MODEL CAR CLUB
DAYTON, OHIO
Ed Robbeloth, PRES.
Jim Davis, V.P.
M.C.S

MODEL CARS on PARADE

Show Stoppers From Across The Country

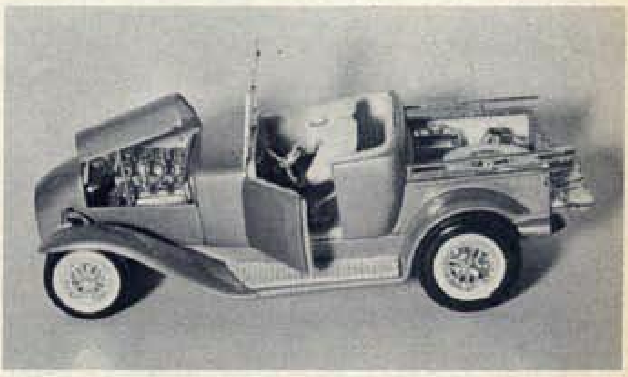




1961 BUICK HARDTOP BY RON BRUSATOR BOASTS A NOVEL REAR GRILLE CAVITY WITH RIBBED BAR BETWEEN TAILLIGHTS.



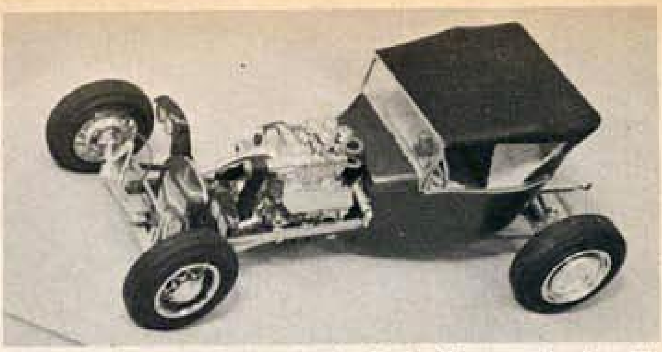
Goeffry Monery of Chagrin Falls, Ohio, assembled a wild T-bodied, full-fendered street rod loaded with chrome. Real upholstery graces the cockpit; and dig the bumpers!



Cuyahoga Falls, Ohio, is home to Louis Snodgrass who built up this nifty Model T pickup with a loaded, eight-carbureted engine and a fully equipped bed.



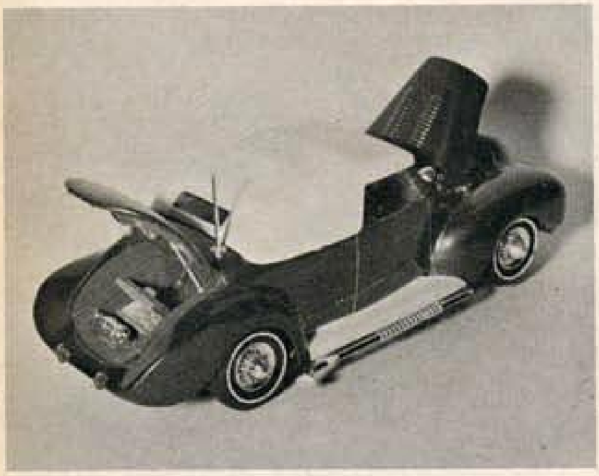
A '61 Dodge kit was the basis of Gordon Foster's fine custom with well styled grille/headlight assembly, de-handling of doors and deck, radical lowering.



Joe Bernaert stuffed a healty 'Vette engine into his version of a soft-topped, T-bodied street roadster. Unique quad lights stand higher than modified grille.



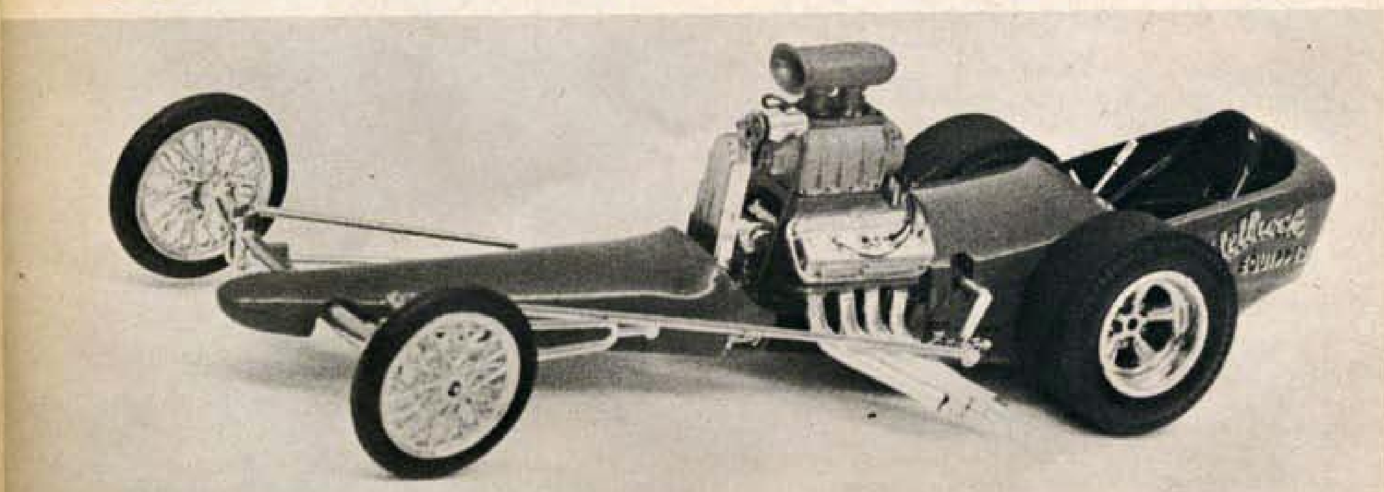
Bob Paeth, master modeler from Oakland, California, has radically customized a Ford Ranchero by adding upswept tailfins, shortened bed, spot-type lights.



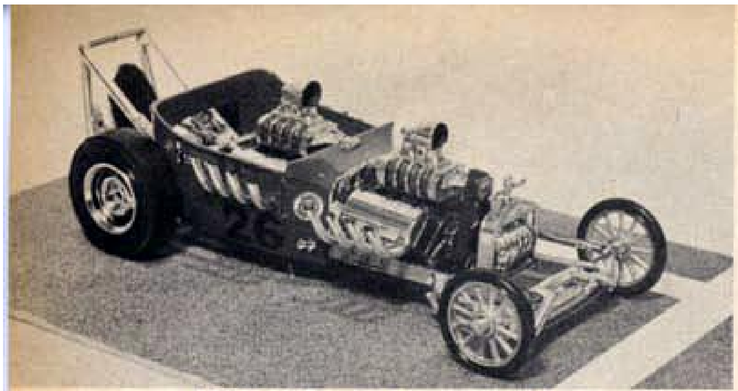
Bob Knop hacked up this '40 Ford coupe in Ohio, adding a newly styled rearend with opening trunk, a folding top of white canvas, and white rubber running boards.



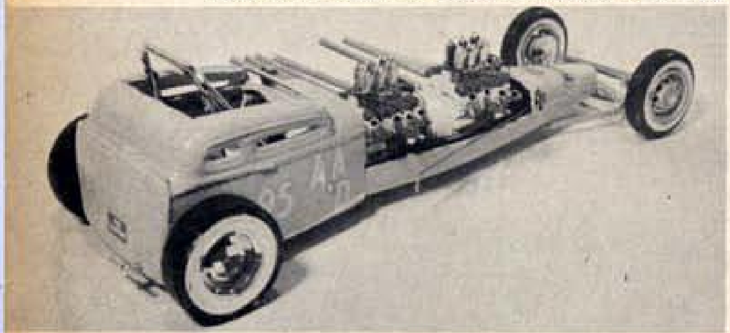
William Hime, from Gettysburg, Ohio, came up with this wildly original custom, featuring clever headlight and grille opening, and full interior with padded headliner.

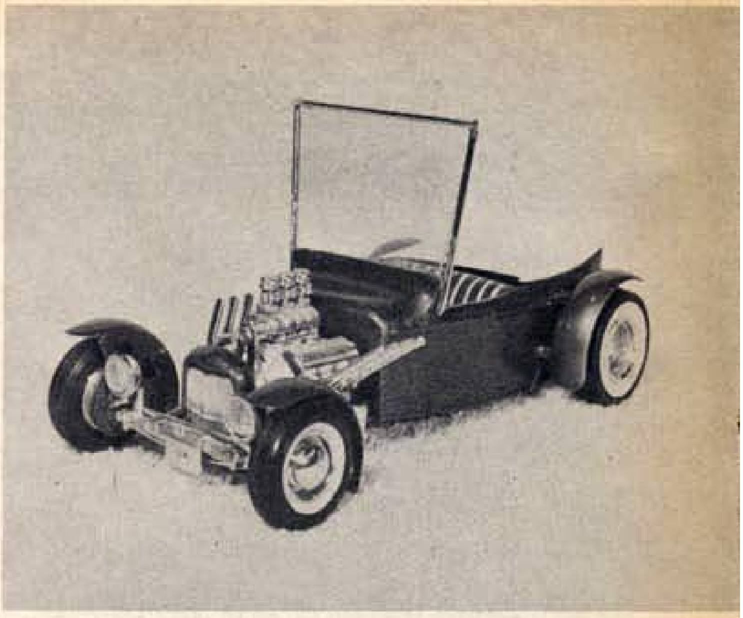


BRRRRRRRUMP! DICK HARTLEY'S NEEDLE-NOSED DRAGSTER WAS BUILT OF REVELL CUSTOM PARTS, BUT FEATURES METAL BODY.



A '25 Ford T was the basis of Dave Pool's competition roadster, but body cockpit now sports a second engine while driver must ride where rumbleseat once lived.



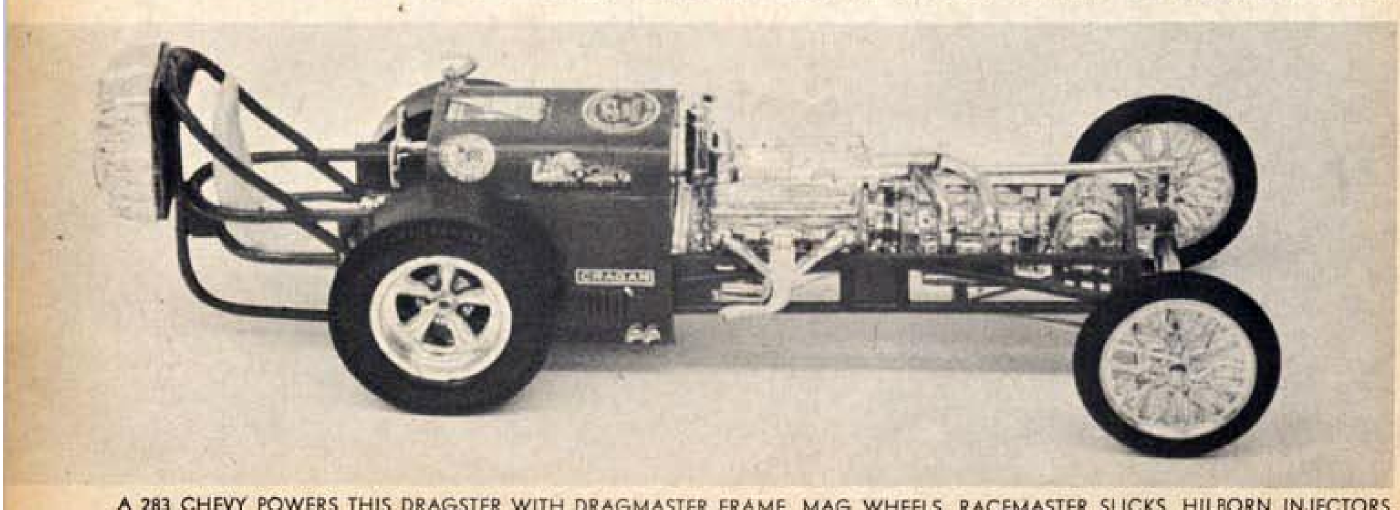


Bob Paeth's second offering this month used to be a Model A phaeton, but has sprouted huge windshield.

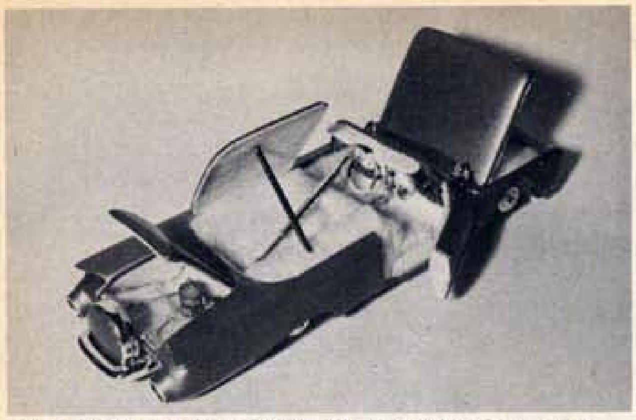
A second dual-engined competition car, at left, falls into coupe class with chopped '32 body, stretched frame.



FROM AL SCHNORENBURG'S OHIO CARDTABLE COMES THE WILDEST IN '61 FORDS. SWEEPING TOP REACHES TO FENDERS.



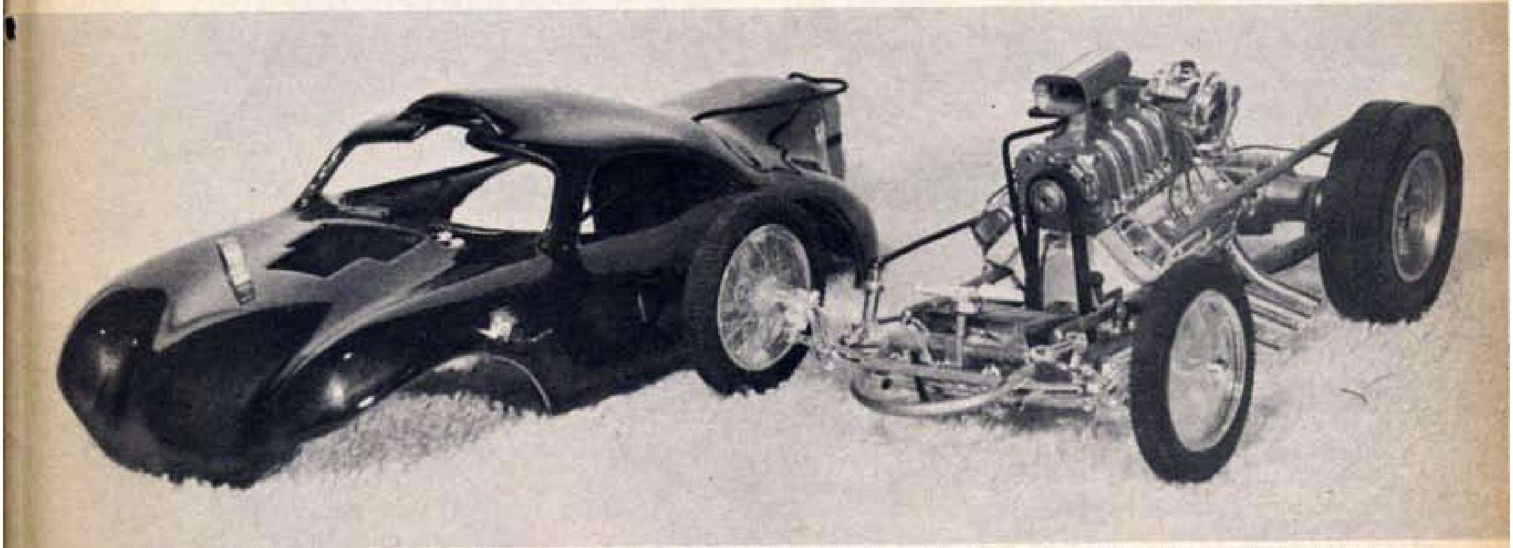
A 283 CHEVY POWERS THIS DRAGSTER WITH DRAGMASTER FRAME, MAG WHEELS, RACEMASTER SLICKS, HILBORN INJECTORS.



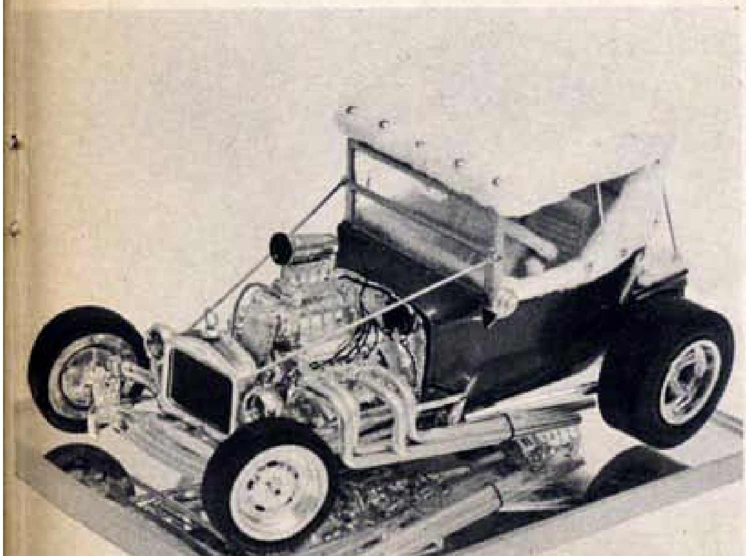
Clark Nelson turned his AMT '60 Ford pickup into a real haulin' hauler, conceived short bed, wild fins.



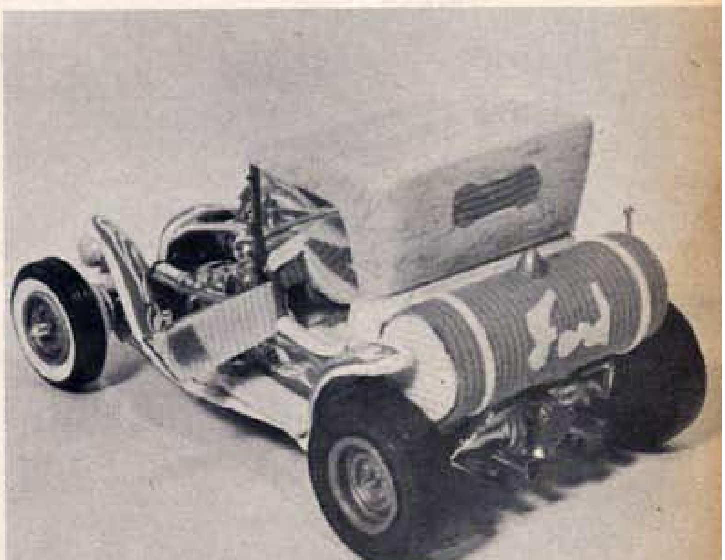
Victor Denzl started with a '40 Ford kit, but by adding loads of Revell custom parts, machine is now strip-bound.



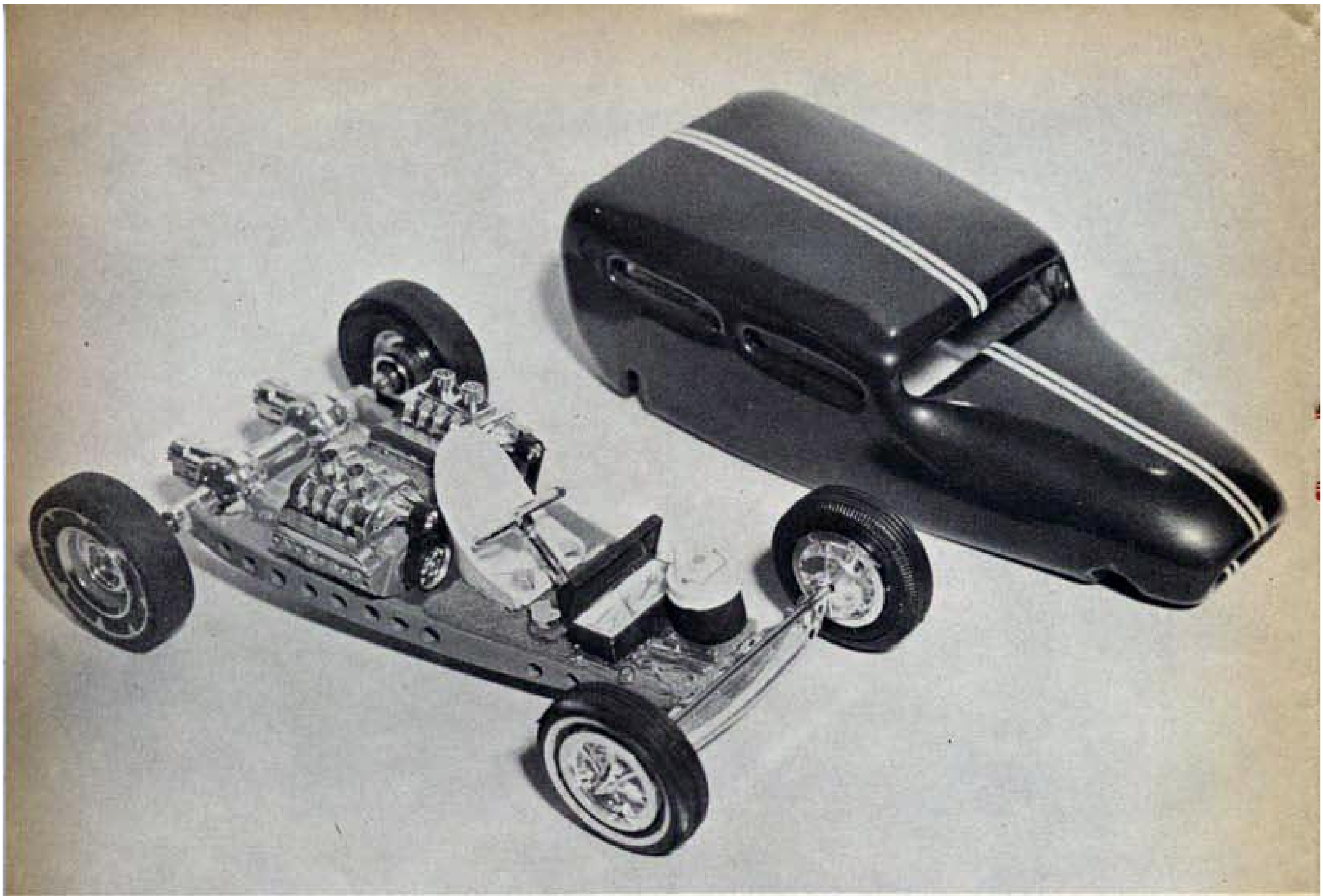
PORSCHE BODY WITH FLAIRED 'CHUTE HOUSING FITS RIGHT OVER COMPETITION CHASSIS, SUPERCHARGED CHRYSLER MILL.



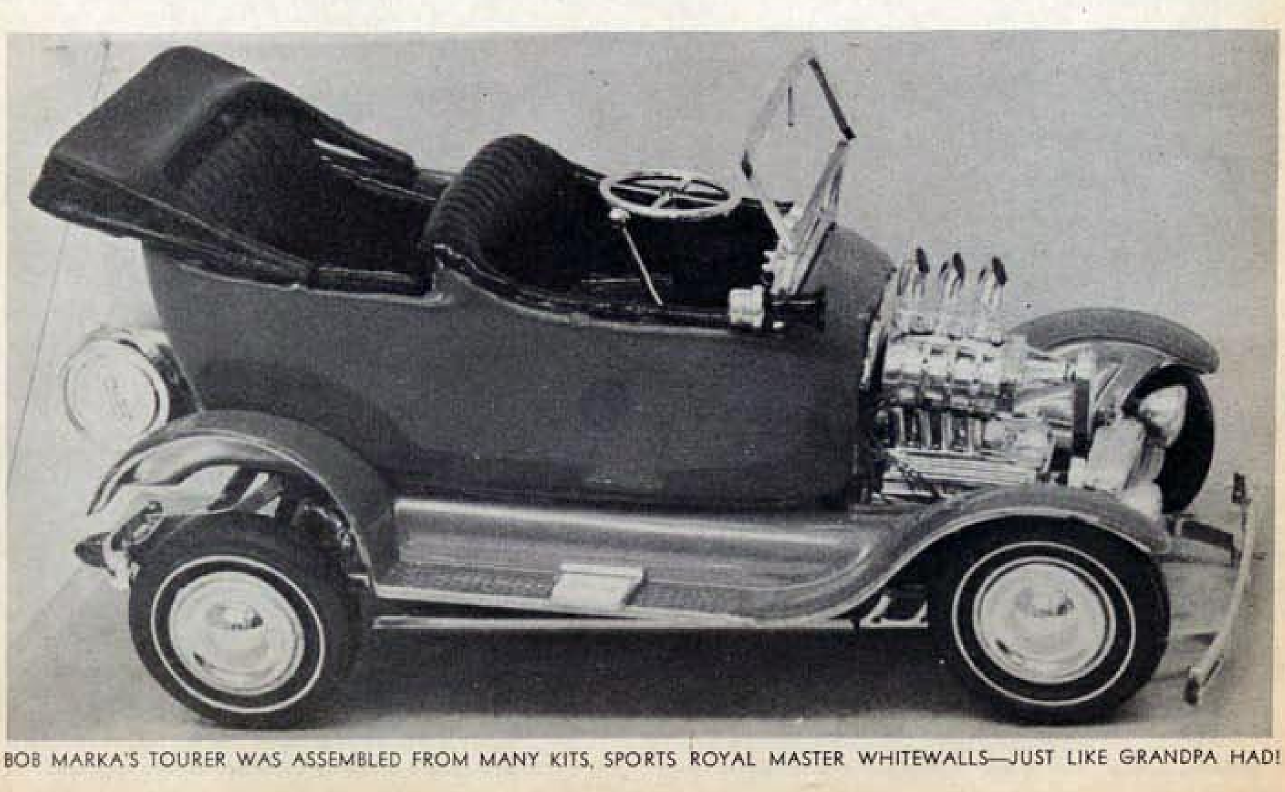
Dick Hartley of Los Angeles used a '25 T kit for this way-out monster powered by a '60 Buick, GMC-blown.



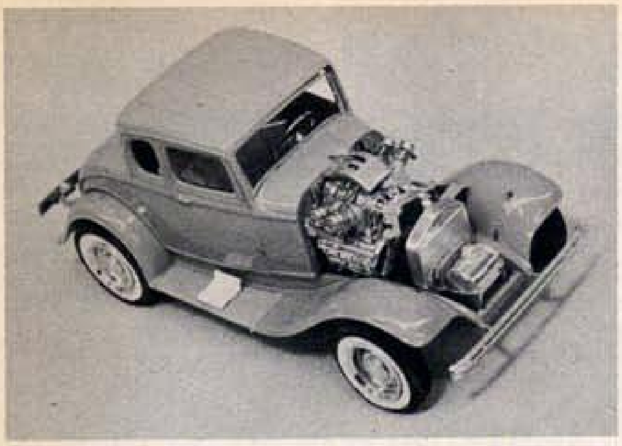
Neil Kent's Minnesota-built '25 T has its bright orange upholstery on the OUTSIDE, including even fuel tank!



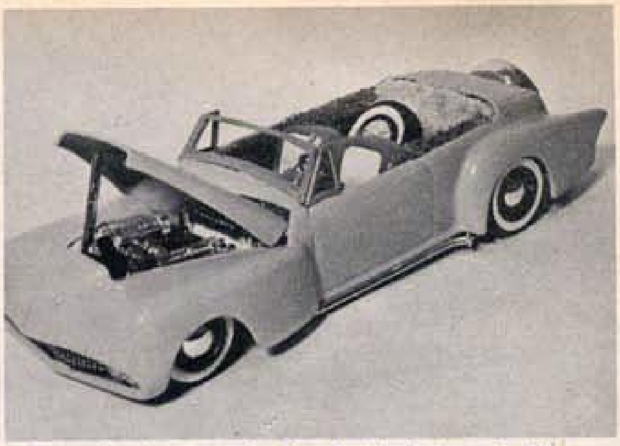
SIDE BY SIDE CHEVYS DRIVE THROUGH TWIN REARENDS IN ROY TRAPP'S BEAUTIFUL DEUCE-BODIED DRAG COMPETITION CAR.



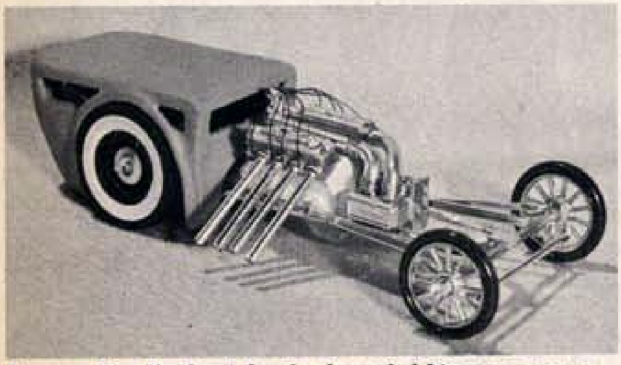
BOB MARKA'S TOURER WAS ASSEMBLED FROM MANY KITS, SPORTS ROYAL MASTER WHITEWALLS—JUST LIKE GRANDPA HAD!



Mike Codey shoe-horned a Latham-supercharged Lincoln into his '32 coupe, with fuel tank ahead of radiator.



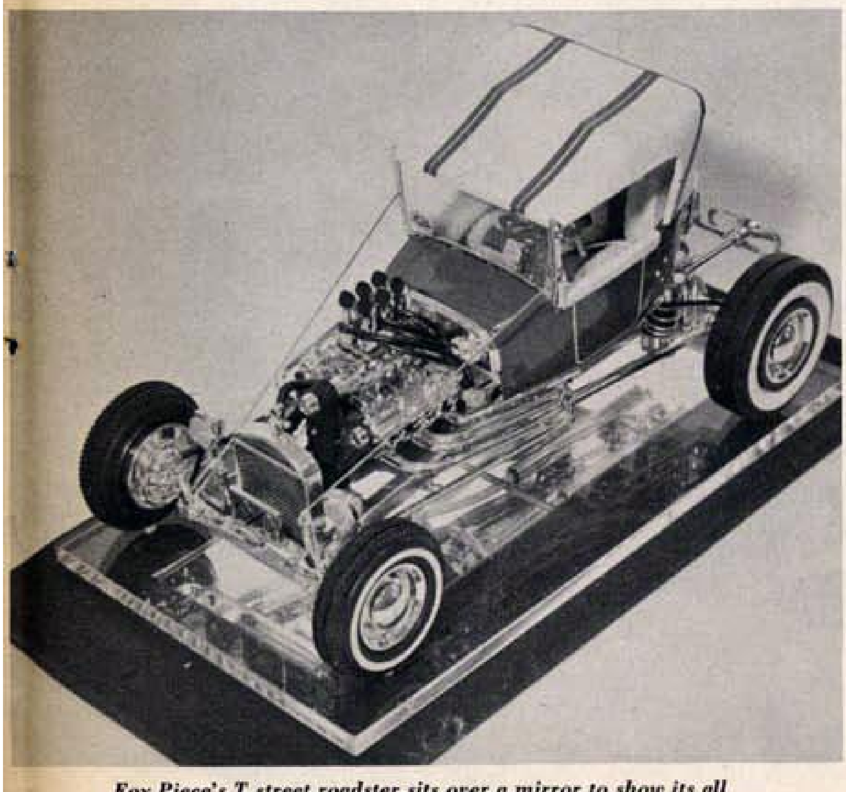
A Pennsylvania custom by Stan Fowler is fronted with a deeply paneled nose, with hinged, pancake hood.



Because Ron Narducci deeply channeled his coupe over a narrowed rear end, huge wheel wells were needed in body.



Gary Thurud's modeling genius gave birth to this rear-engined dragster that could double as a Grand Prix car.



Foy Piece's T street roadster sits over a mirror to show its all chrome undercarriage of Revell goodies. Wild headers and a striped top are real custom touches.



Mike Sheper's San Francisco-built '32 Ford coupe is stripped of essentials for use on the strip.



Ron Narducci again shows how it's done; this time with a real swinging '56 Buick radical custom.

TABLE TOP RACING SECTION



Champion Racers

a close look at some table top winners

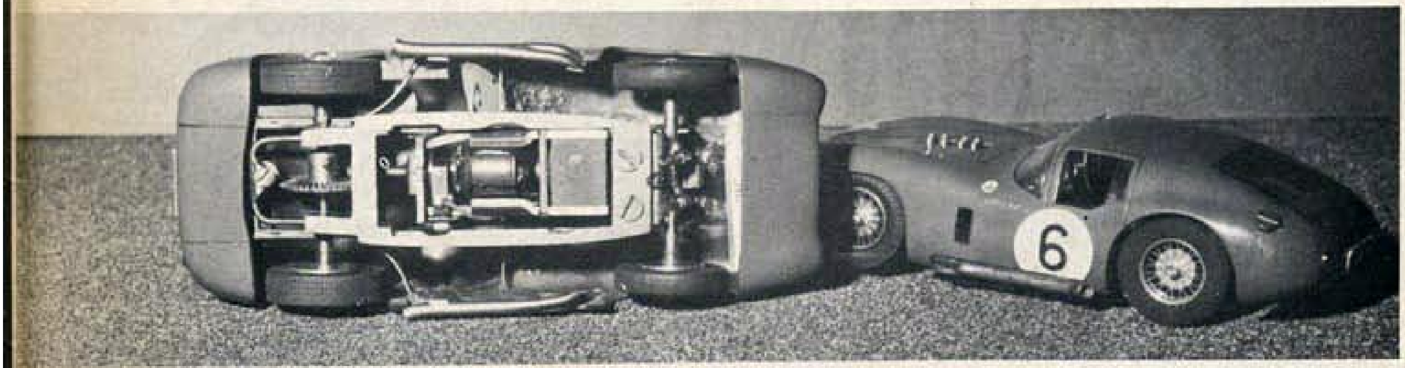


THIS GTO FERRARI AND MASERATI 250 INTERCHANGE ON THE SAME CHASSIS WHICH USES MRRC GEARS, WIRE WHEELS





M. G. PANNETT OF ENGLAND HAND MADE WOODEN BODY FOR THIS ALPINE. UNDERSIDE SHOWS SPUR DRIVE, GUIDESHOE.

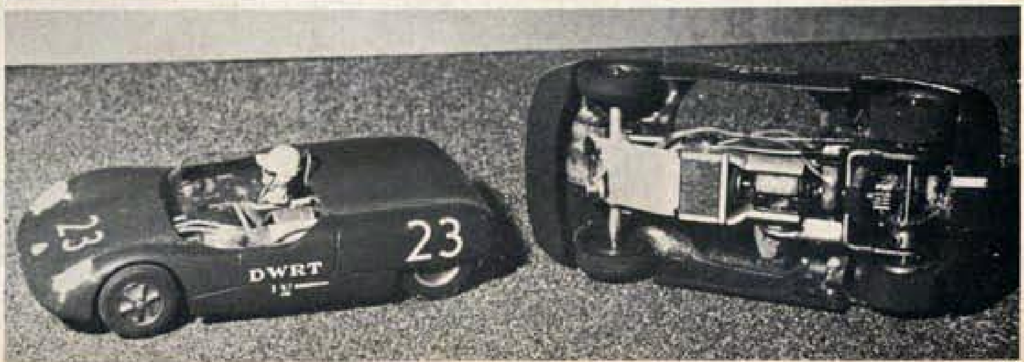


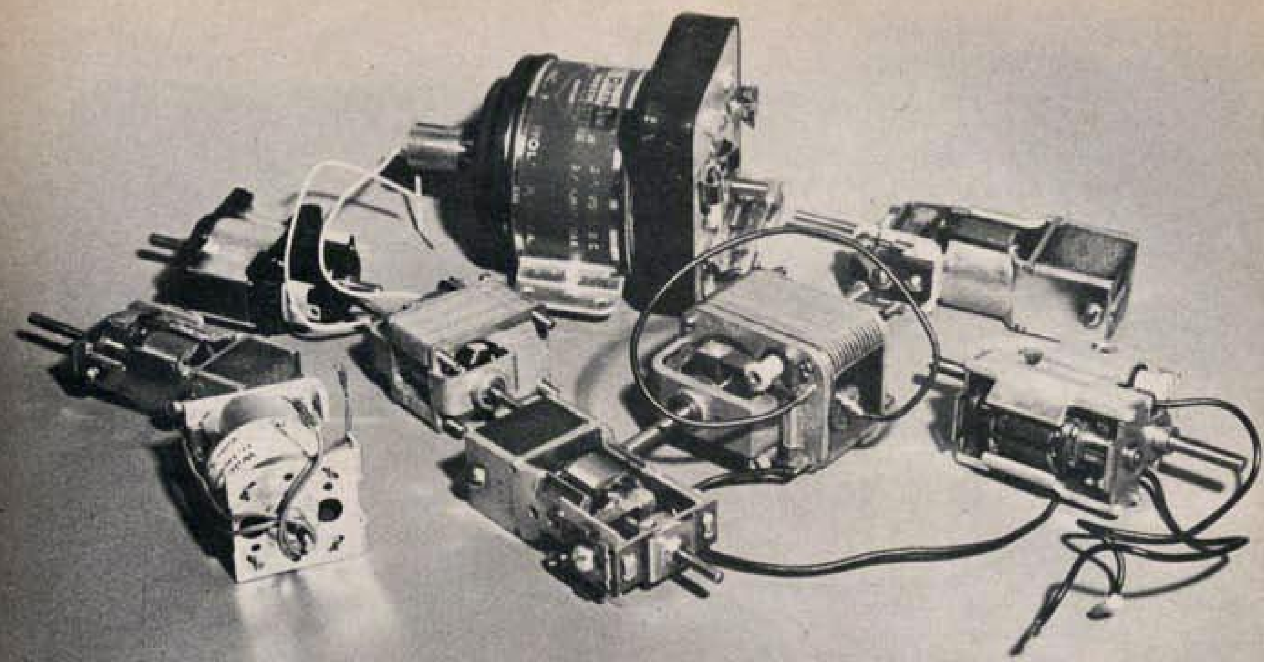
DICK DOBSON AND GENE WALINGFORD OF ROCKFORD, ILL. PRODUCED THIS GREAT EXAMPLE OF 1957 MASERATI 4.5 COUPE.

J. C. Benedict scratch built this beautiful version of the 1938 Jaguar SS. He first carved the body from pine and molded a fiber glass body from it. Motor is Bonner, gears, wheels, guide are Auto Hobbies.



More beautiful work by the Dobson-Walingford team of Illinois. This is their version of famous British racing performer, the Lotus 23. MRRC powered.





MOTORS FOR ELECTRIC RACERS

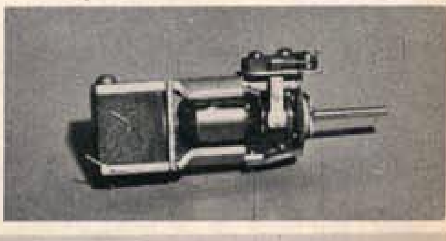
Pick the right one for your car

Today's slot racer has nearly as great a choice of power-plants as the builder of full-size race cars. There are many factors, such as size, output and weight, to be considered and the proper choice will no doubt be the deciding factor in the car's performance.

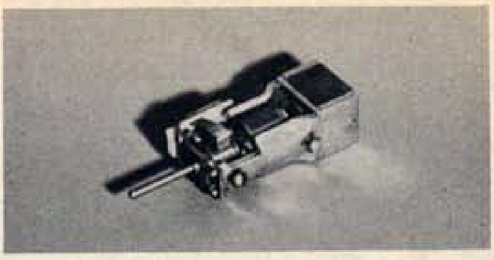
No one can point to a particular electric motor and call it the best for all situations. You can only gather together all of the facts and relate them to individual cars and the tracks upon which they are to run.

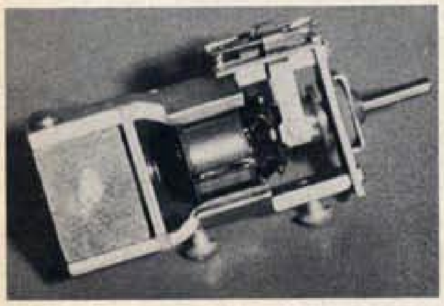
After the motor is chosen it is time to think of gearing. Due to the fact that tire diameter and composition as well as track surface figure in this choice, we can only offer certain basic guides to this choice. With most motors used on road courses, it pays to gear down to the point that you are able to "break" the wheels loose at any time. This way you are able to operate higher on your controller and to feather, giving you a better chance of having brakes at the end of the straights (and you will not be loading the motor). Do not, however, gear down to the point that you are gobbled up badly in the straights. On the drag strip try to go as high in gear as possible, so that the car pulls off the line with limited wheel spin and picks up on the far end.

PITTMAN DC 195 — The smallest motor in the line, it must carry light loads for long use. Armco iron pole pieces rustproofed. Alnico 5-magnet, five-slot armature ground to 17/32 diameter. The commutator is ground true after assembly. Brush tips are copper graphite. Winding is for 12 volts DC.



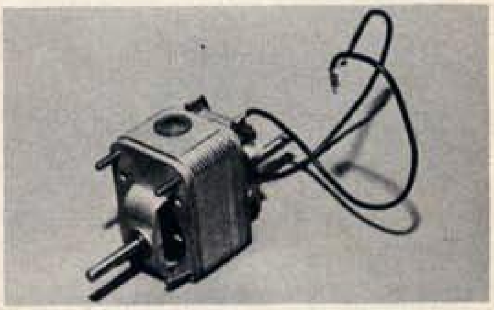
PITTMAN DC 62B — Pole pieces are Armco Iron rustproofed. Magnet is Alnico 5. The five slot silicon steel armature is ground to 17/32 diameter. Commutator is nylon insulated and ground true after assembly. Windings are double insulated wire, varnish dipped and baked. Brush tips are copper graphite. Winding is for 12 volts DC.

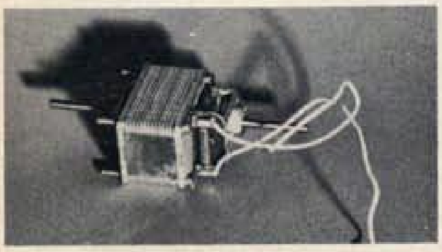




PITTMAN DC 70 — A powerful, low cost motor. Pole pieces are low carbon steel rustproofed. Alnico 6 magnet. Five-slot armature of silicon steel is ground to 5/8-inch diameter. The commutator is nylon insulated and ground true after assembly. Brush tips are copper graphite. Winding is for 12 volts DC.

PITTMAN DC 85A — A double end shaft motor with die cast metal end plates clamping Armco steel-laminated pole pieces. Magnet is Alnico 6. Five-slot armature of silicon steel is 3/4-inch diameter. Windings are heavy Formex magnet wire, impregnated and baked. Commutator is ground true after assembly. Brush tips are copper graphite. Windings are for 12 volts DC.

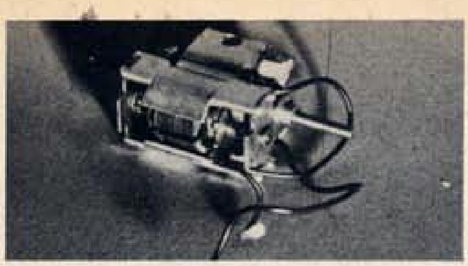




PITTMAN DC 65 — A double-end shaft motor with die-cast metal end plates clamping Armco steel laminated pole pieces. Magnet is Alnico 6. Five-slot armature of silicon steel is ground to 17/32 diameter. Commutator is ground true after assembly. Windings are heavy Formex insulated magnet wire, impregnated and baked. Brush tips are copper graphite. Windings are for 12 volts DC.

PITTMAN DC 71B — Pole pieces are low carbon steel, zinc plated. The oversize magnet is Alnico 6. Five-slot armature of silicon steel is ground to 5/8-inch diameter. Commutator is nylon insulated and ground true after assembly. Brush tips are copper graphite. Winding is for 12 volts DC.

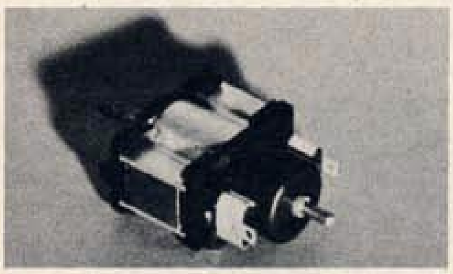




PITTMAN DC 704A — No official release is given by the factory, however the motor has an attached spur-drive axle geared to 3:44-to-1. We would assume that the same care in construction and material would be used as in the other Pittman motors. It has a winding for 9 volts DC and the armature is 5/8-inch diameter.

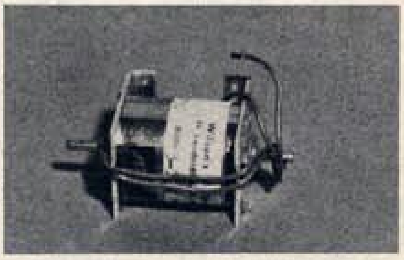
PITTMAN 9003 — Ceramic magnet, double-insulated armature windings, impregnated and baked. Brushes are copper graphite. Armature shaft is 1/8-inch stainless steel. No other official information on this motor is offered by the factory.





BONNER — A double end shaft motor with nylon end plates. Pole pieces are drawn quality steel, rustpoofed. The dual magnets are Alnico 5. Five-slot armature of silicon steel is ground to 35/64-inch diameter. Commutator is ground true after assembly. Brushes are 93 percent silver, 7 percent graphite with Birilium copper springs. The higher the voltage used, the lighter the load must be to maintain longer life.

WILSON 875 — A double end shaft motor with aluminum end plates. Pole cover is steel, rustproofed. The circular magnet is ceramic (birium Farite). The armature of silicon steel is ground to .590-inch diameter. Commutator is ground true after assembly. Brushes are copper graphite, coil spring loaded. The higher the voltage, the lighter the load should be for long life.



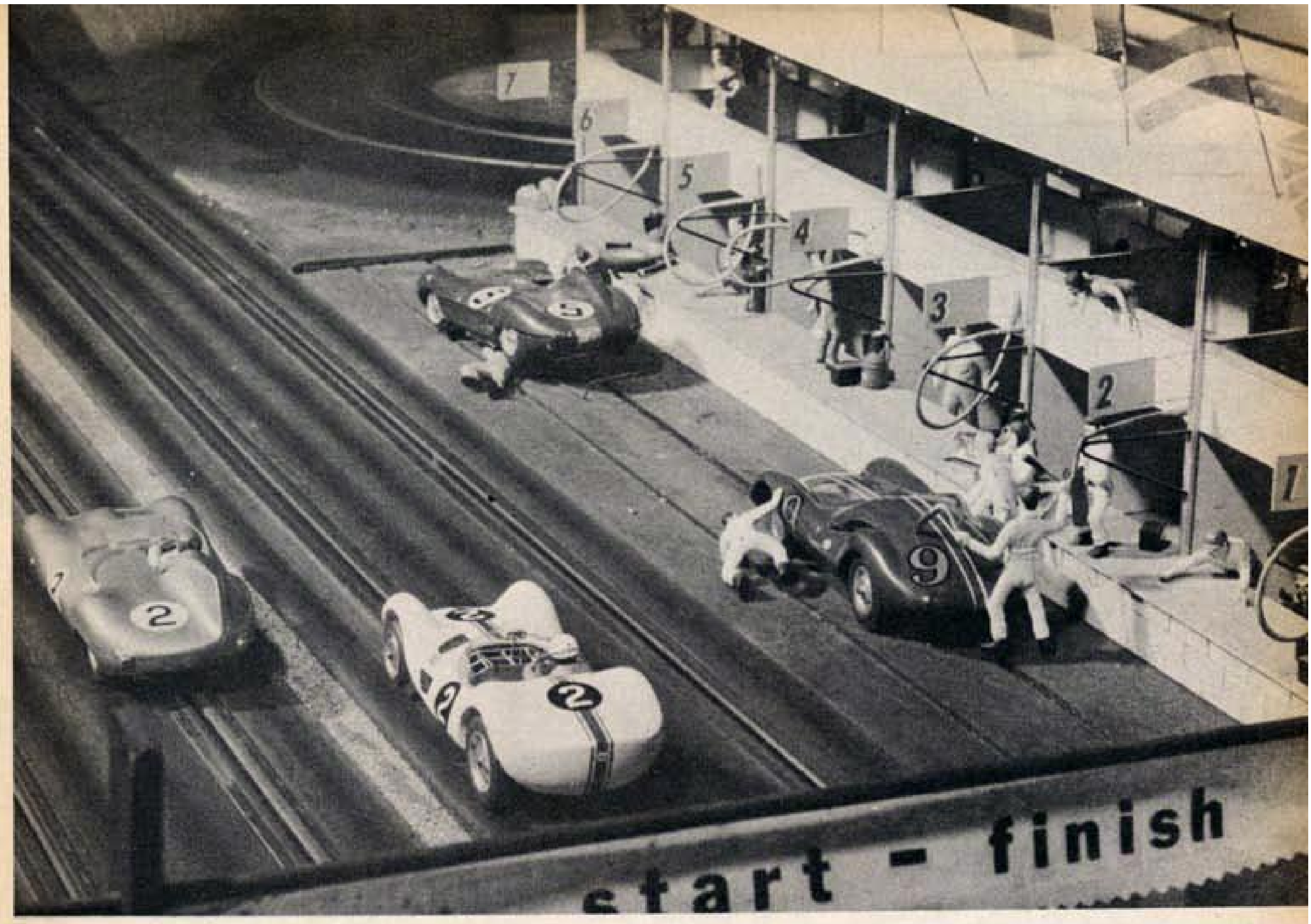
MOTOR MAKE	NUMBER	NO LOAD SPEED	OPERATING SPEED	HORSEPOWER OUTPUT @ OPERATING SPEED	AMPS @ OPERATING SPEED	WEIGHT (OUNCES)
PITTMAN	195	19,000	17,000	.0018	.42	1½
PITTMAN	62B	15,000	12,500	.0021	.42	1¾
PITTMAN	70	16,500	14,000	.0039	.67	2⅜
PITTMAN	71B	12,000	9,000	.0042	.67	2¾
PITTMAN	65	15,000	11,500	.0032	.53	2⅛
PITTMAN	85A	11,500	8,700	.009	1.06	4½
PITTMAN	704A	16,500*	13,000*	NA	.5*	2½*
PITTMAN	9003	NA	NA	NA	1.5	7½
BONNER (at 5 Volt)	Duramite	——	8,500	1.15 mili hp	700 miliamp	1 2/10
WILSON	875C	28,000	24,000	——	——	1¼

*approximation

MOTOR SIZES (in inches)

MOTOR	HEIGHT	WIDTH	LENGTH
Pittman 195	½	¾	1⅝
Pittman 62B	½	¾	1¾
Pittman 70	⅝	⅞	1⅞
Pittman 71B	⅝	⅞	2⅛
Pittman 65 (spur)	¾	1⅜	1 1/16
Pittman 85A (spur)	1 1/16	1⅜	1⅜
Pittman 704A	27/32	1½	1 5/16
Pittman 9003	1¾	2	2⅛
Bonner	11/16	1⅛	1 5/16
Wilson	⅞	1	1¼

Measurements do not include shafts, bushings, or brushes. Measured with narrow way for height.



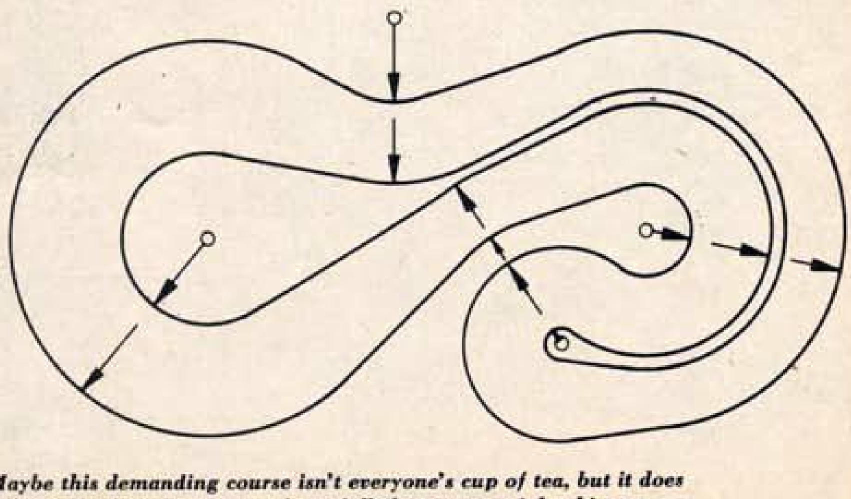
COMPACT TRACKS

Here are 8 layouts that offer road racing thrills within a four- by eight-foot area

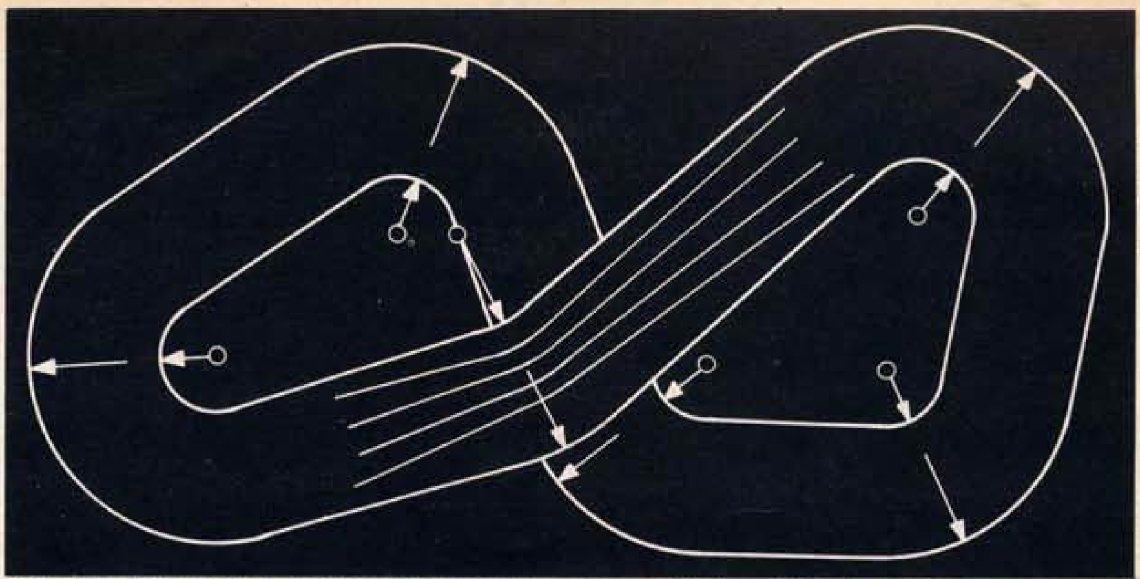
One of the most important keys to the tremendous popularity of table top racing is the fact that it literally lives up to its name. Many an enthusiast from coast to coast has found that it is possible to build a thrilling road race course within the confines of a large table.

Last month MODEL CAR SCIENCE gave step-by-step instructions on the actual building process. With the use of a few simple tools, particle board and tape can be transformed into a miniature version of some of the world's greatest racing courses. On the following pages our editors present their ideas for a variety of designs that can be transferred to a four- by eight-foot section of particle board. This, of course, is the standard size available in board and plywood.

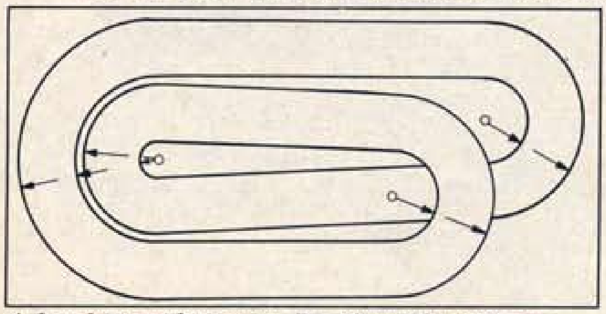
We are quite sure that you will find at least one design here to fit your racing tastes. Thrill seekers will be inclined to favor layouts with crossovers that mean potential collisions on every lap. The more confident throttle jockeys will love the plans with chicanes and erratic turns. Whatever your choice, there is challenging racing ahead.



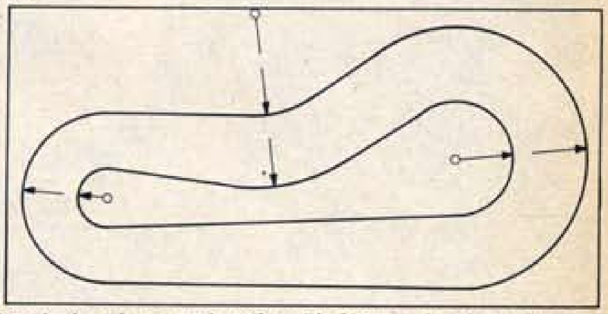
Maybe this demanding course isn't everyone's cup of tea, but it does demonstrate widths of turns from full clearance to tight chicanes.



A four-lane layout with an overpass. All radii are the same except in the mild bend over the bridge. Note also the chicane action across the bridge.

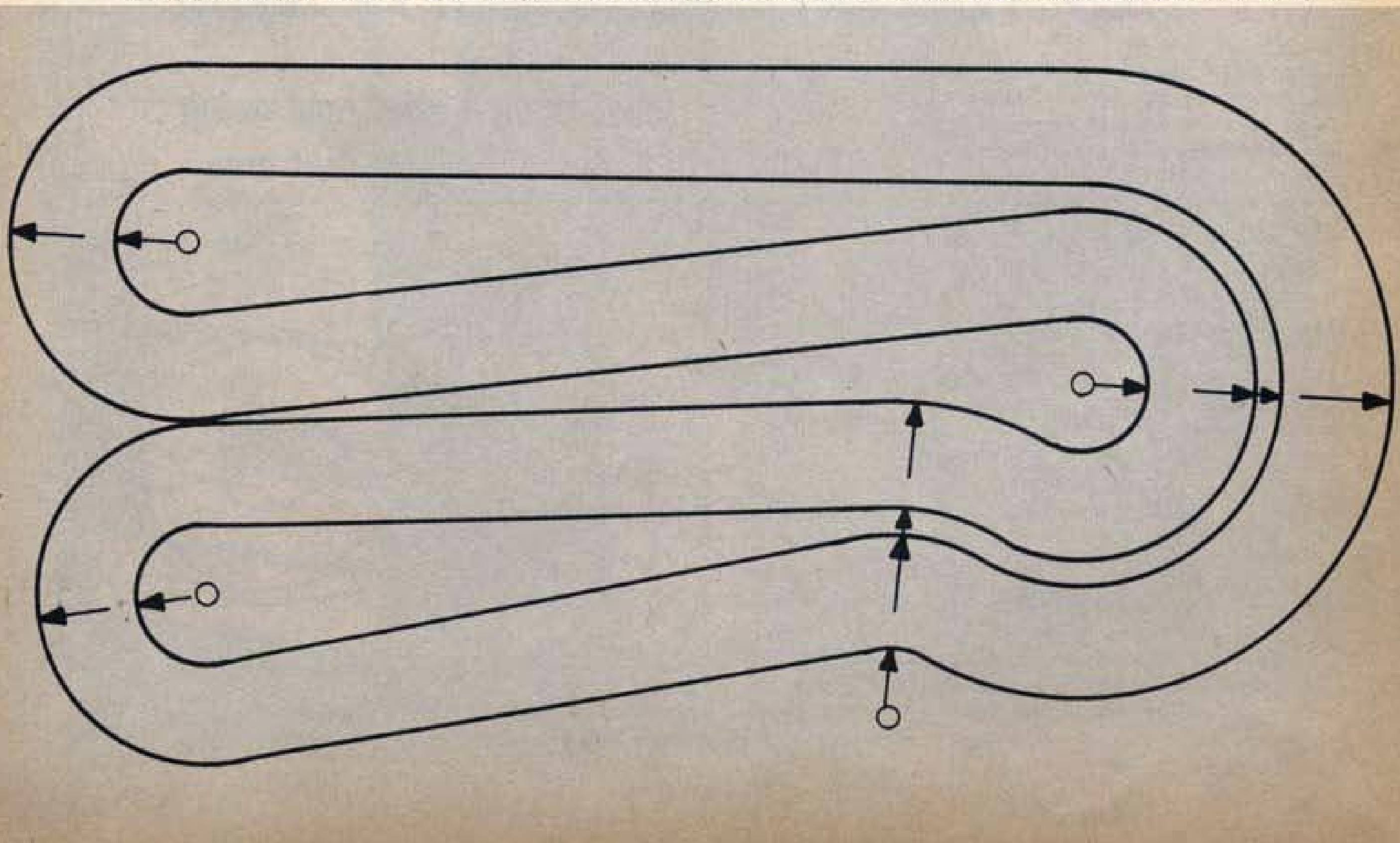


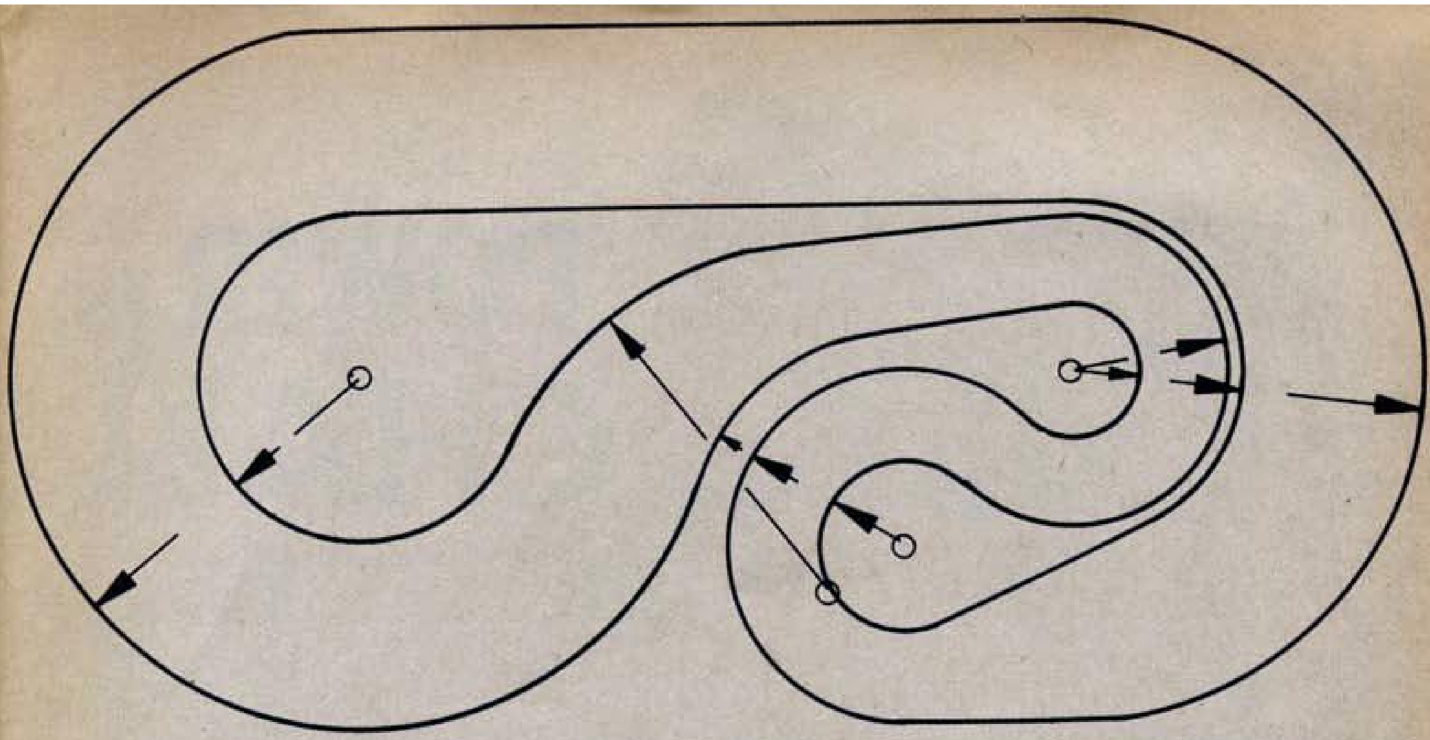
A three-laner with overpass, lots of straights. This type crossover does not equalize distance. One car travels less.



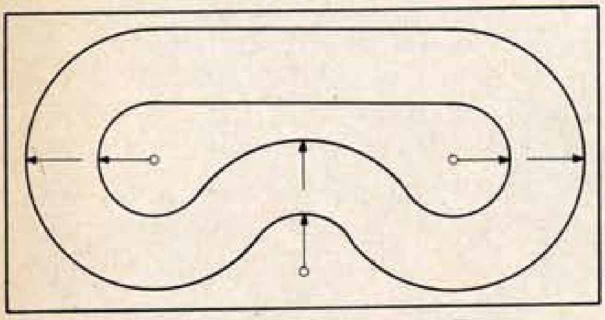
Simple four-lane track with mild chicane, this fast course still calls for drivers to yield right of way at times.

WITH THIS LAYOUT YOU USE ONLY TWO LANES FOR RACING AND THUS ARE ABLE TO HAVE MORE LAP DISTANCE.

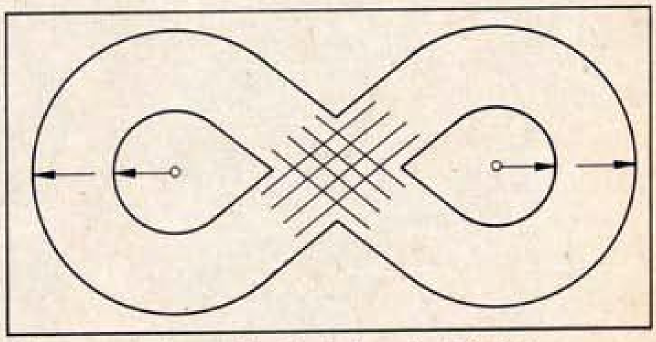




THIS LAYOUT OFFERS CHICANE AREA OF SAME NON-PASSING WIDTH AND FAIRLY GOOD STRAIGHTAWAY FOR SPEED RUNS.



Four-lane layout using the same radius on all curves. The distance per lap is quite different for each lane.

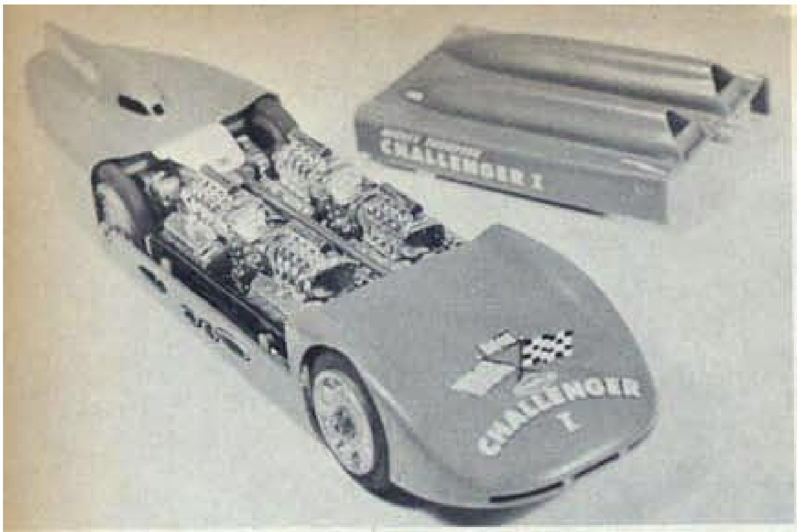


If you want action and don't mind wrecks, this flat intersection will fit the bill. P.S. Lots of luck.

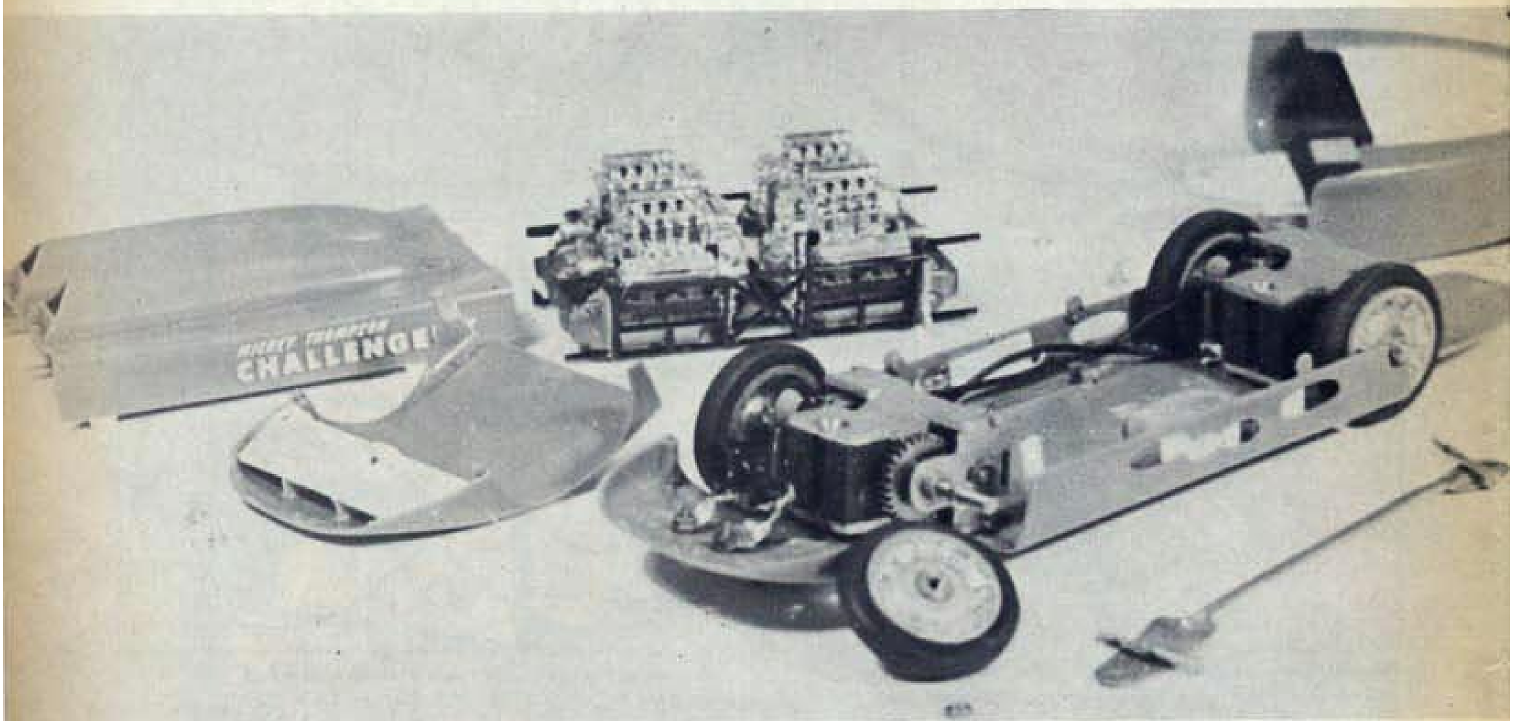
BUILD YOUR OWN TRACK



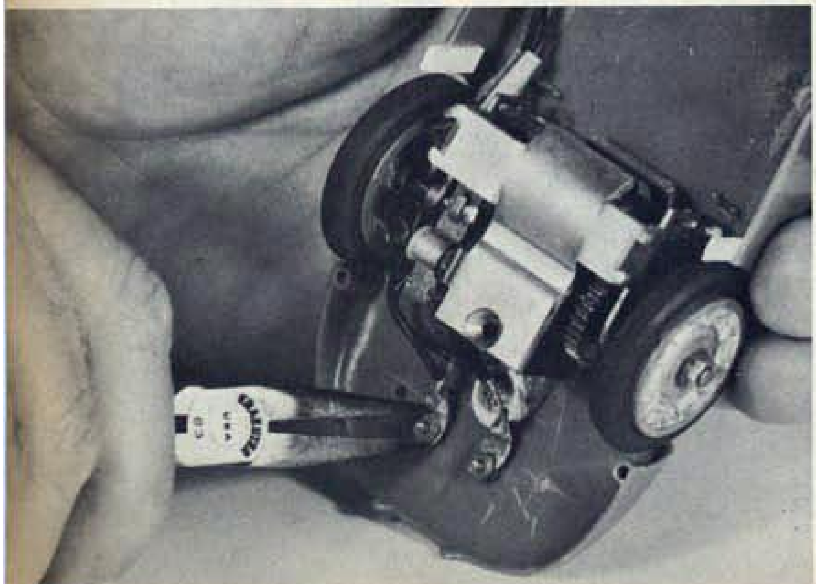
Interested in transferring these ideas to the real thing? The first issue of MODEL CAR SCIENCE containd a comprehensive article with step-by-step instructions on how to build a track. You may receive a copy by sending 35c plus 10c for handling to: Model Car Science, 131 So. Barrington Pl., Los Angeles 49, Calif.



POWER THE CHALLE



Looking for all the world like the pit area at the Bonneville Salt Flats, this overall view shows the complete group of materials needed to power Challenger.



This easy installation job calls for no special chassis; actually utilizes the kits body shell. Here the front motor leads are fastened to the pick-up connectors.

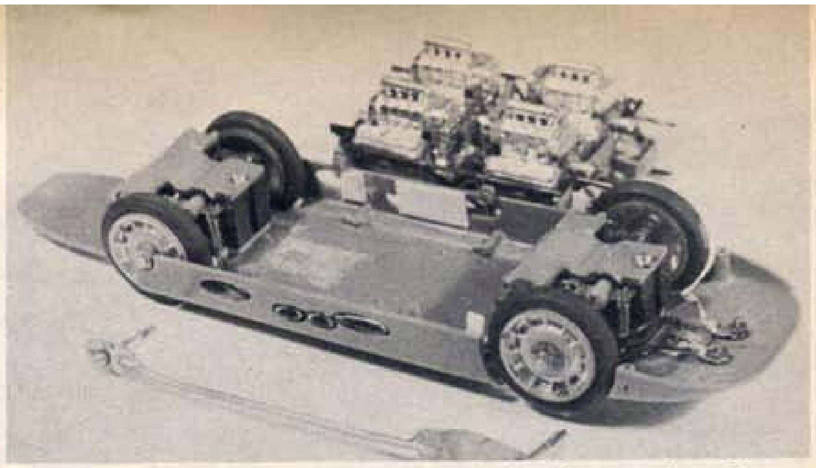
The pick-up brushes are simple system of braided wire. The guide shoe is just a bolt. The white reinforcing sheet under the motor is made from sheet stryene.



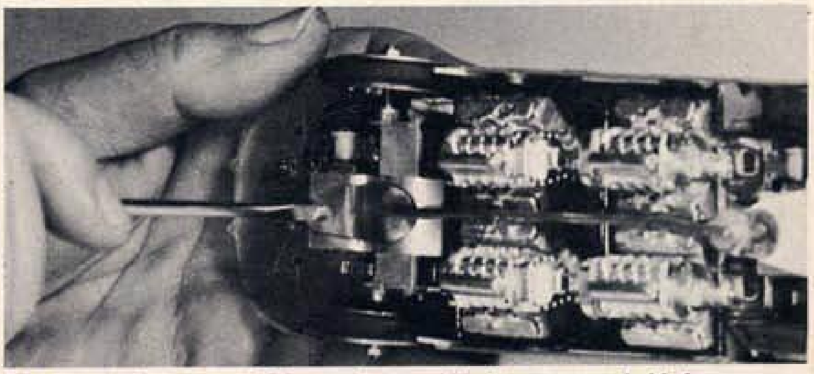
Make A Novel Racer Out Of Mickey Thompson's Land Speed Record Holder

NGER

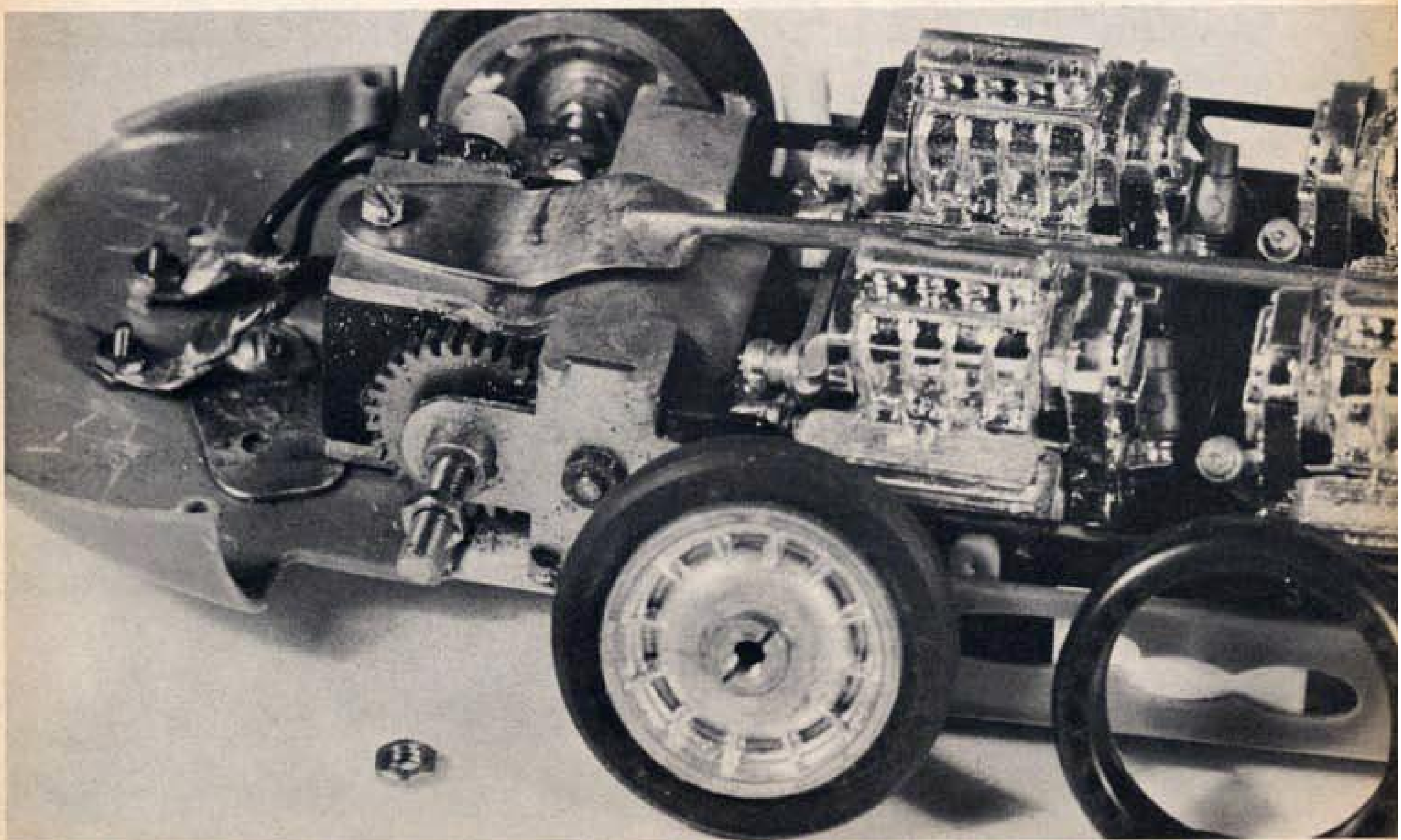
As you will read later in this issue, slot drag racing is one of the most popular variations on table top racing, but it is having some growing pains. One of these is the fact that so many cars are showing up which are little more than motors on wheels and bear little resemblance to real cars, living or dead. Here's a drag strip contender that you can easily fabricate from the already existing kit of Mickey Thompson's streamliner, the Challenger I. This is the car that went 406 mph on the Bonneville Salt Flats and, with power from two Pittman 704's, guiding this model, it should live up to its reputation of speed.



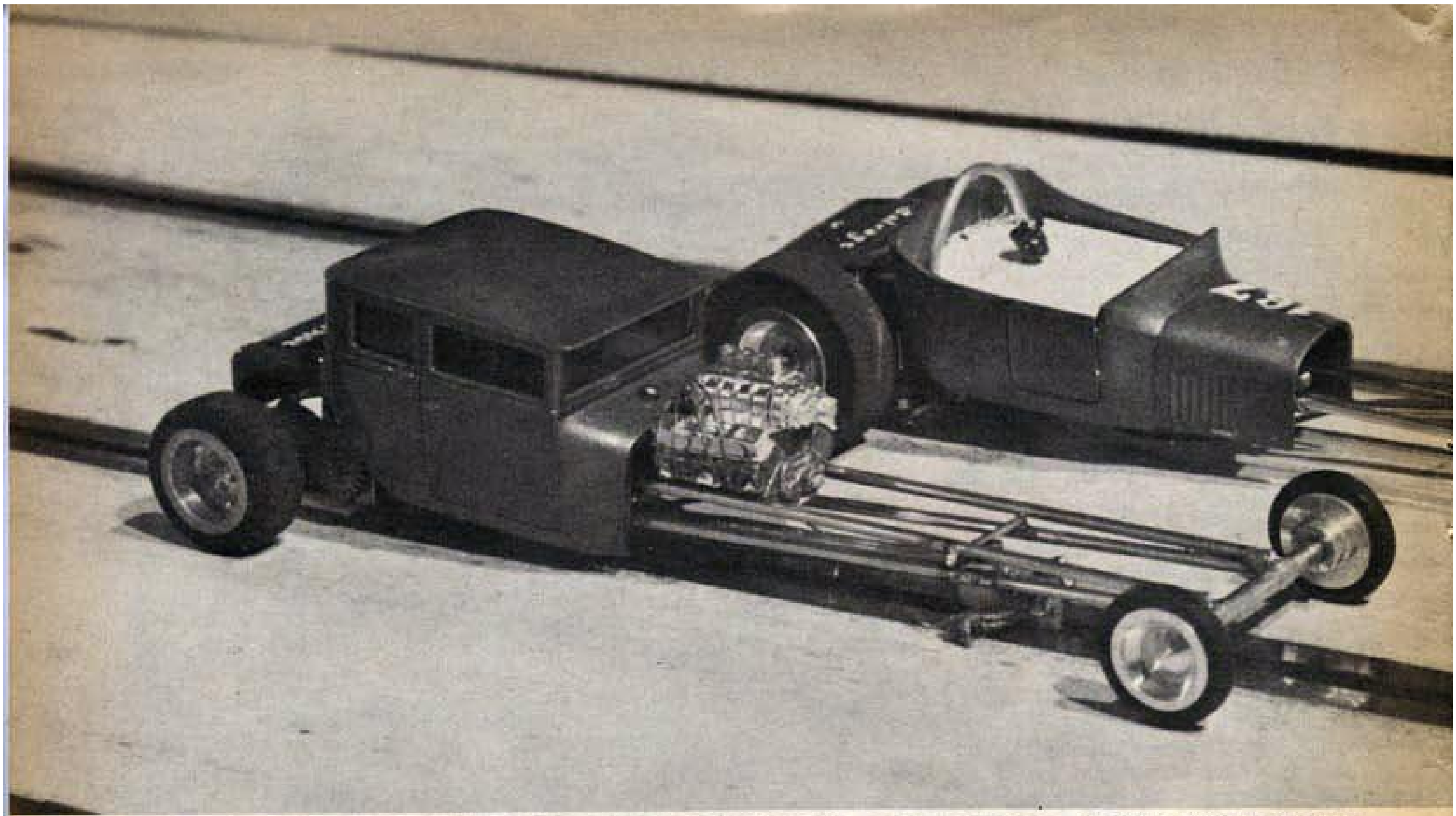
Two Pittman 704 motors are mounted fore and aft of the streamliner. They are connected by a piece of brass tubing which serves as brace.



The brass tubing not only braces the assembly, but serves to hold the car level during its runs down the 55 feet of the slot drag strip.



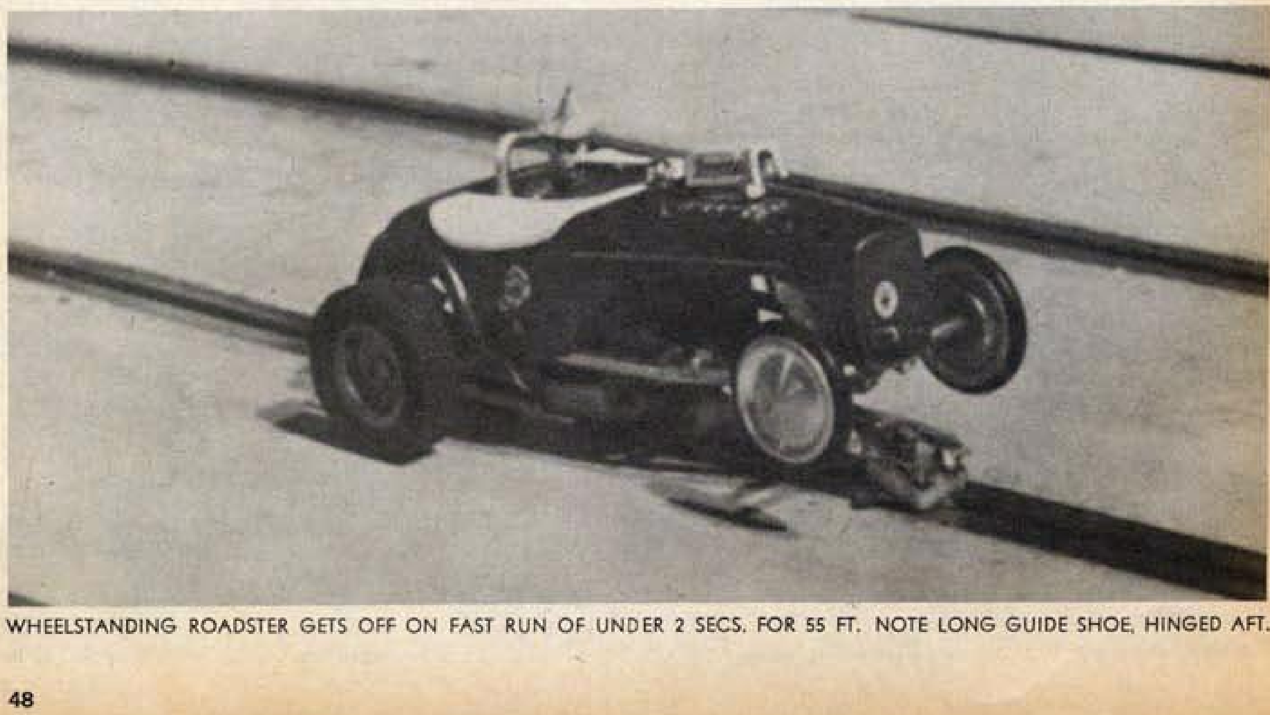
TIRES FOR THIS DRAG VERSION OF THE MICKEY THOMPSON CAR ARE AUTO HOBBIES BRAND STRETCHED OVER KIT WHEELS.



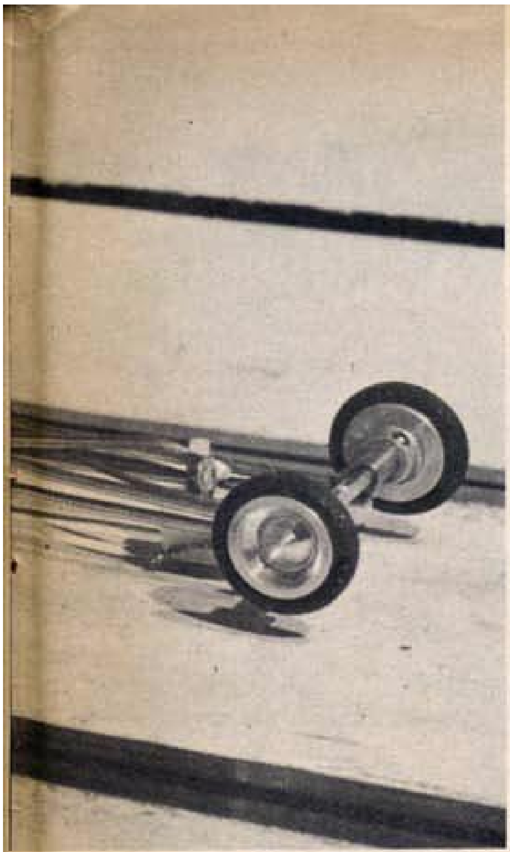
DRAG RACING TRENDS FOLLOW FULL-SIZE DEVELOPMENTS. LONG-NOSED CARS HAVE GOOD STABILITY, WEIGHT IN REAR.

DRAG RACING to SCALE

QUARTER-MILEING IN MINIATURE ... FIFTY-FIVE FEET OF REAL GO!



WHEELSTANDING ROADSTER GETS OFF ON FAST RUN OF UNDER 2 SECS. FOR 55 FT. NOTE LONG GUIDE SHOE, HINGED AFT.



BY BILL SIPPEL

SLOT drag racing is not necessarily new, but the hobby is beginning to move forward like a twin-engined dragster with a stuck accelerator. At present everything seems a little out of control, but with proper care exercised this branch of table-topping will shortly reach a well-organized state.

Back in the early days of the hobby, the predominant scale was 1/30th for anything in the American passenger car or drag car field. Available sports cars and those falling into the grand prix category were scaled to 1/32nd; the two near enough in relative sizes that they could compete on an equal basis. At the start, straightaway dragging was actually of the rail-racing type rather than the now-popular slot racing. Scale dragging actually got its start in the Midwest, where tracks were limited to the indoors due to the inclement weather for part of the year. Home garages were the most readily available places to hold a pint-size meet, so tracks were necessarily limited to 1/3rd of the true scale length. As a result, quarter mile courses were cut to about twenty feet with a very inadequate shut-off distance.

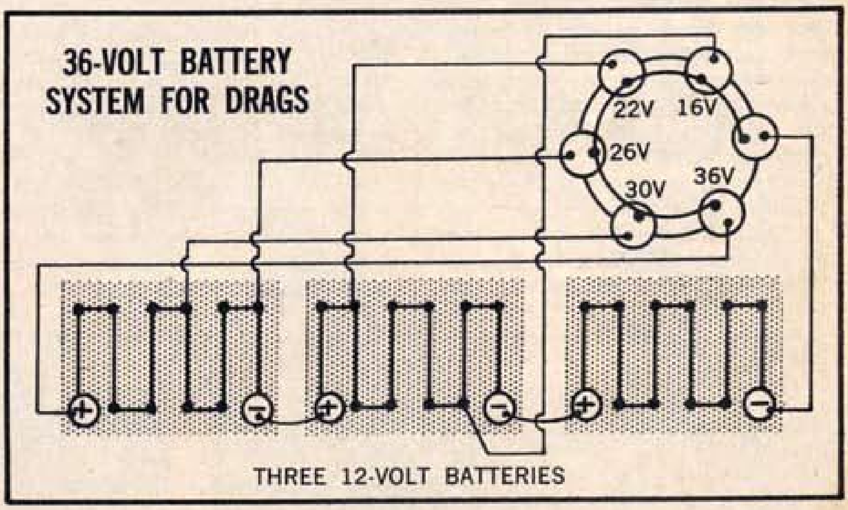
Today the hobby has progressed so that full scale runs of 55 feet are predominate, or a total of 127 feet including the slow-down section. The sport now includes real racing teams, with their pooled money, resources and knowledge, and the individual entrant has a tough row to hoe if he expects to be included in the winners' circles.

The original beginnings of slot drag racing followed reasonably close to existing big car classes. Voltage was the same for all classes — 12V — and when using a car battery for power there was no amperage problem. To prevent stock or semi-stock models from turning in as good or better times than dragsters, class regulations were set limiting such things as tire diameters and gear ratios. When it was determined that ball-bearing equipped cars were far faster, then all racing classes were further broken down. Bearing cars never competed with bushing equipment.

After the sport's start in 1957 it



Each car must pass scrutinizing by tech inspectors who check adherence to class rules, assign racing numbers.

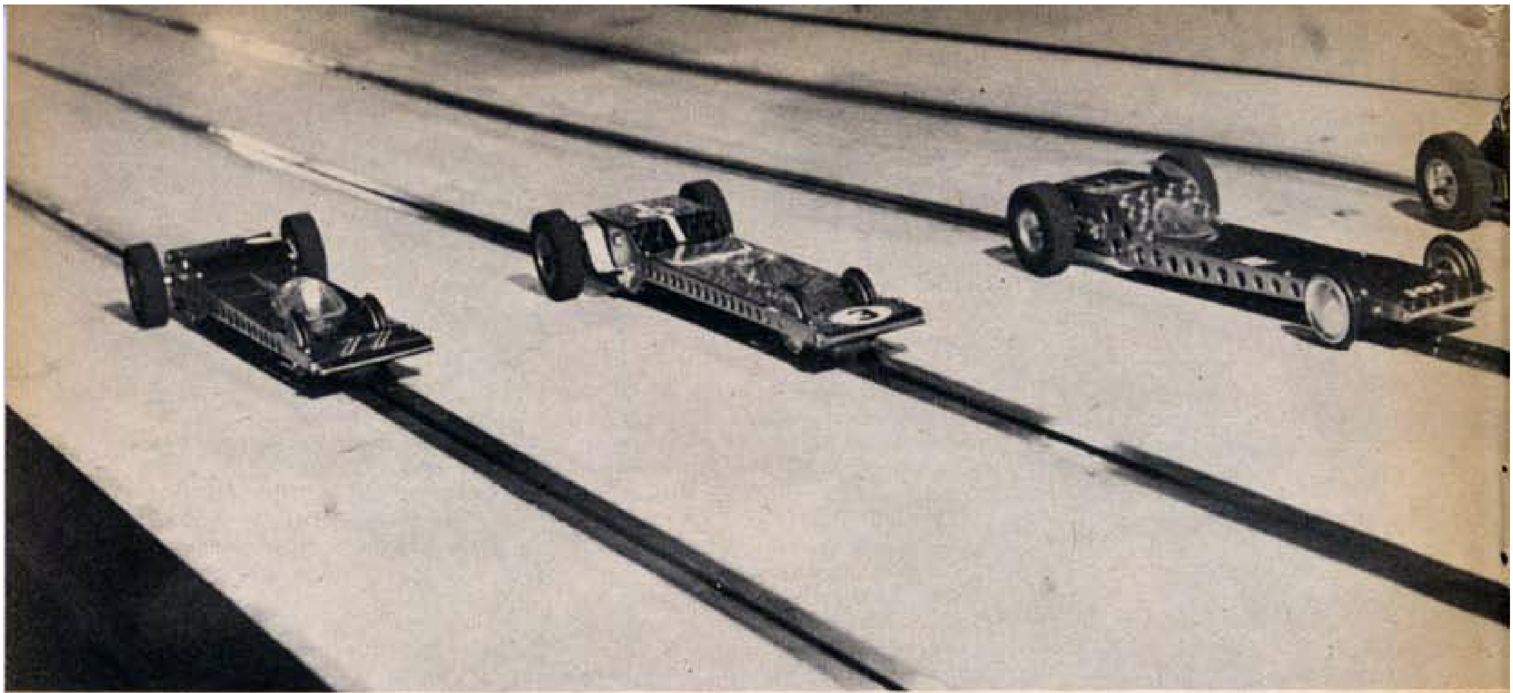




A mighty fast '57 Chevy often does wheelstands off the line. At right above is 36V, battery-supplied wiring setup.

gained in popularity, but gradually interest began to wane until it reached a low in mid-1960. The chief reason was the utter lack of manufactured equipment available. Enthusiasts *had* to make everything themselves, and this eventually discouraged many of them.

A portable drag strip was built late in 1960 by Auto Hobbies, and when it began making the big car show tour interest again began picking up. In addition, regular monthly drag meets were conducted at the increasingly popular shop, located in Glendale, California. The drags got off to a somewhat slow start with cars missing in many of the established classes, but shortly so many fans began turning up that limits had to be



FOUR OF TODAY'S FASTER DRAG CARS, SHOWING DESIGNS TENDING TO LONG WHEELBASES, LOW CENTER OF GRAVITY.

placed on the number of cars and events that could be held in a single evening.

New classes were introduced offering racing fans a choice of voltages. Dragsters were given the tops in voltage, stock classes the slowest, and intermediate voltages assigned to the groups between. Too, the older 1/30th scale class was dropped and a 1/24th scale class substituted as so much of the newly manufactured model car equipment fell into this classification.

In November of 1960, at a meet held in Pasadena, California, a Chrondek Timer was installed for the first time. Accurate e.t.'s were at hand at last, and the first car to break the two-second barrier brought the record down to 1.97 seconds. By April of '61 top time was lowered to 1.82 seconds and in December it dropped again, this time to 1.62 seconds. In June of '62 it fell to 1.59 and by the end of the year it reached an all-time low of 1.36 secs., with every class represented breaking under two seconds e.t.

Tracks used for the meet times recorded above were of masonite with a steel contact strip. Particle-surface board was later found to be superior and the faster times were set using a contact strip of aluminum tape, copper shim or recessed braided wire. Voltages used for the various classes were 16V, 21V, 26V, 31V and 36V, all with 20 amps, or 10 amps per racing lane.

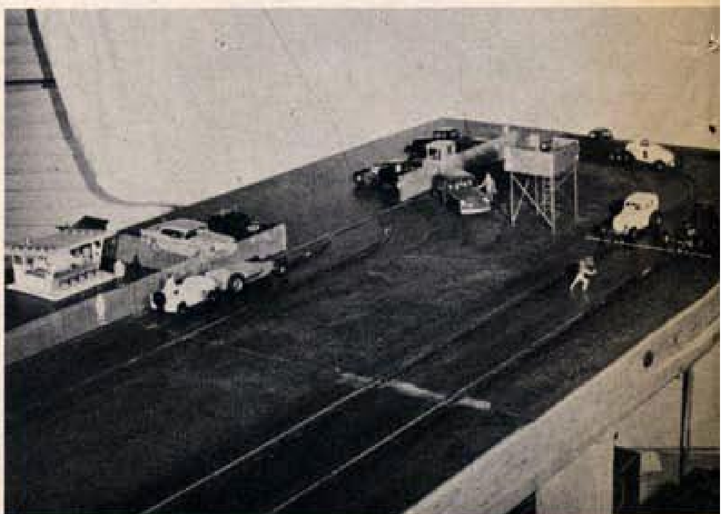
The final meet referred to above saw a change to battery power with unlimited amperes. An ammeter wired into the circuits showed that some of the dragsters were drawing as high as 17 amps on takeoff.

Though the bulk of the class victors were found to have been running within the established rules, there were certain offenders in the sports car and dragster classes. A great deal of the trouble was due to confusion in interpreting the requirements.

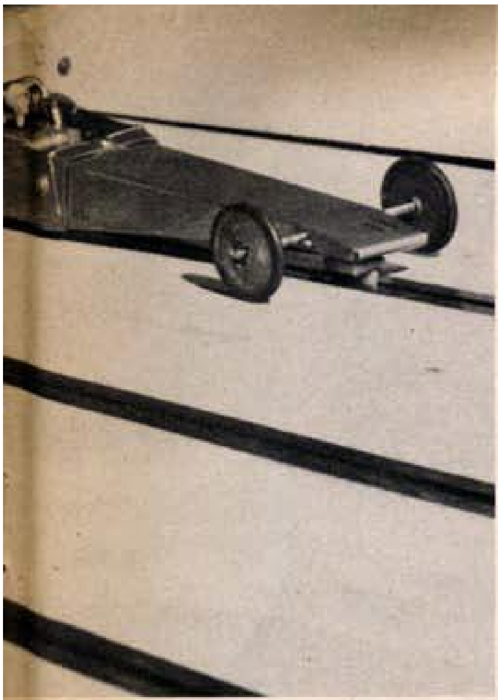
Here is a rundown on existing and current rules and regulations:

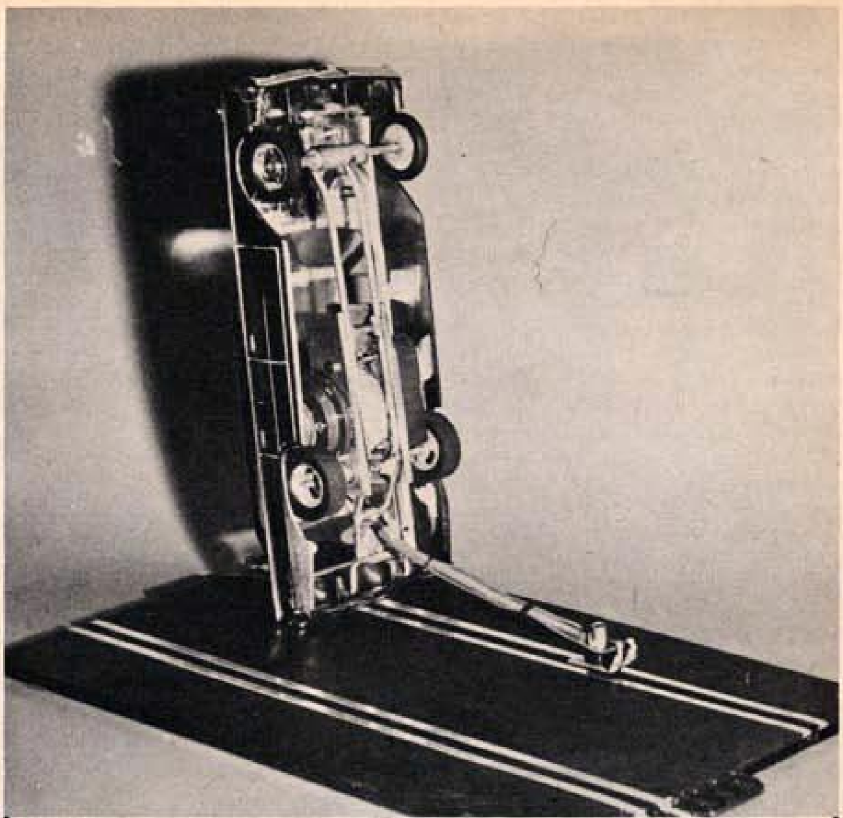


1957 saw the start of organized miniature drag racing, and these cars were among the first. Rod appearances have changed little but new motors and tires have raised speeds.



An early battery-powered drag strip, with return lanes for cars sent back by finish line attendant. Speeds six years ago averaged about 3 seconds, but are now well under 2.





S-Stock — 16 volts, scales 1/23rd, 1/24th and 1/25th running together. Entries must be stock or mildly customized and must run full "street equipment" as included in the original kit. Maximum tire diameter supplied with kit must be used, and tires must have tread. Wheel openings in body must not be reworked.

G-Gas — 21 volts. Cars must have at least one bumper, all kit-supplied lights, and all fenders though the latter can be mildly trimmed to accommodate various tires. Slicks are allowed.

SC-Sports Car — 21 volts. Any specials must come within proper size scale. Entries must run fenders or covered wheels and may use slicks. Each entry must have a head-high rollbar and, if an open body style, a driver must be included.

A-Altered — 26 volts. Coupe or sedan bodies, but placed on chassis where intended. Cars may be chopped, channeled or sectioned, but only two of the modifications incorporated out of the three choices. Radiator shells must be stock, fenders are optional and slicks allowed though tread width front and rear must not be narrowed.

R-Roadster — 26 volts. The rules for this class are the same as in A-Altered but a head-high rollbar and a driver must be included.

GP-Grand Prix — 26 volts. Requirements are identical to those of SC class except that fenders are not allowed. Indianapolis-type cars run in this class.

CC-Competition Coupe/Sedan. 31 volts. Bodies can be positioned anywhere on chassis, and may be modified to any extent. Wheel tread can be anywhere up to three inches and slicks are allowed. Fenders are optional.

MR-Modified Roadster, 31 volts. The rules are the same as in CC class except head-high rollbar and a driver are required.

D-Dragster, 36 volts. Entries must have some form of body around driver's cockpit. Slicks are allowed and fenders optional. Maximum tread width of three inches. Must have head-high rollbar and driver unless cockpit is totally enclosed.

O-Open Gas, 36 volts. Maximum wheel tread allowed is three inches, but anything else goes. No limit on number of motors, the driven or rolling wheels, etc. Class cannot compete for top elimination runs.

Built-In Wheelstand

Most of today's slot drag winners are covering the 55 feet in fast style because their cars have a fall-away pickup. Experts agree that this is not the ultimate drag design, but it is the current winning fad and you might as well join in. The obvious reason for this set-up is to keep power coming into the car even while it is performing a wheel-stand. Basically the guide shoe is placed on a long tube that leads forward from a hinged position on the rear of the car. The farther back (like all the way to the rear axle) the better.

The car shown here stands on the rear bumper and even flips over backwards with too much voltage. It has already turned a time of 1.89 seconds and is bound to do even better. If this time doesn't sound too great, remember that it is a stock class machine cranking on at a lowly 16 volts.

Some cars carry their wheels in the air all the way down the line while others wheel-stand at first and slowly drop to a front wheel rolling position. The shorter the arm on the guide, the more weight it must carry to keep it in the slot while motor power and tire bite lift the car.

This car was built by Dale Bridge from Hubley's 1/24th scale 1960 Ford station wagon kit (plastic). Powered by the Pittman six-volt 9003 boat motor ($7.50), it is spur driven at a 1-to-1 ratio. Slicks and wheels are from Auto Hobbies and the guide is MRRC.

All classes except O-Open Gas will be limited to four wheels with only two of them driven. Slicks will be a maximum of ½" wide and a 1⅜" diameter. All motors must be generally available through hobby and model stores with a retail cost not exceeding $10.00.

Little Eliminator. Winners of S, G and SC classes will compete at 21 volts.

Middle Eliminator. Winners of A, R and GP classes will compete at 26 volts.

Top Eliminator. Winners of CC, MR and D classes will compete at 36 volts.

Current class records for fifty-five foot drag strips using Chrondek Timers are as follows: *S-Stock* — 1.96 secs. *G-Gas* — 1.81 secs. *SC-Sports Car* — 1.93 secs. *A-Altered* — 1.69 secs. *R-Roadster* — 1.70 secs. *GP-Grand Prix* — 1.68 secs. *CC-Competition Coupe/Sedan* — 1.52 secs. *MR-Modified Roadster* — 1.55 secs. *D-Dragster* — 1.47 secs. *O-Open* — 1.36 secs.

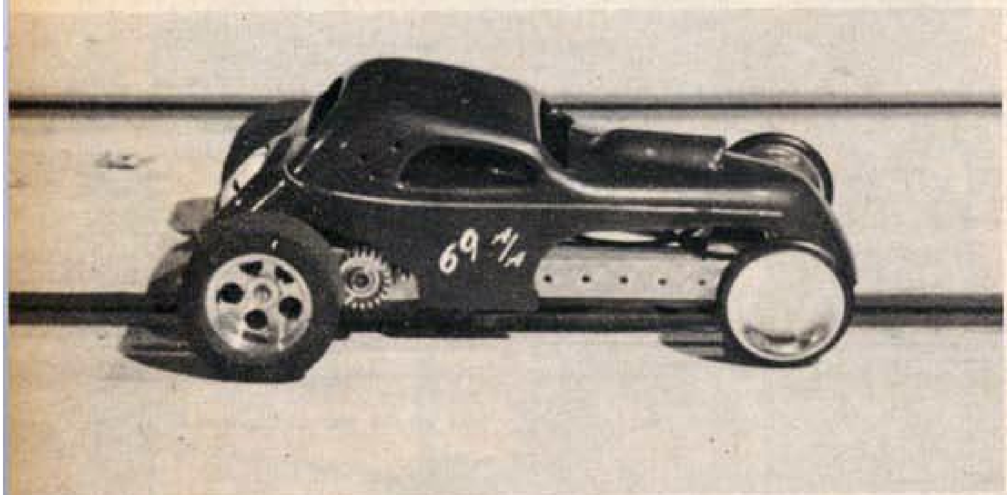
Many theories have been advanced by those who would like to see the sport grow and prosper, most of them with decided advantages over today's requirements and limitations. Here are a few thoughts for whatever they may be worth:

There seems to be a need for, in addition to the full-length fifty-five foot drag strips, shorter strips so individuals can squeeze a course into garage or basement. Ball bearing classes should be retained, but regulations of the non-ball bearing classes should be tightened up to discourage rule infringement. The various voltages used are not easily wired up from standard power sources so while the different classes should be kept the voltages could well be altered to 12V, 18V, 24V, 30V and 36V.

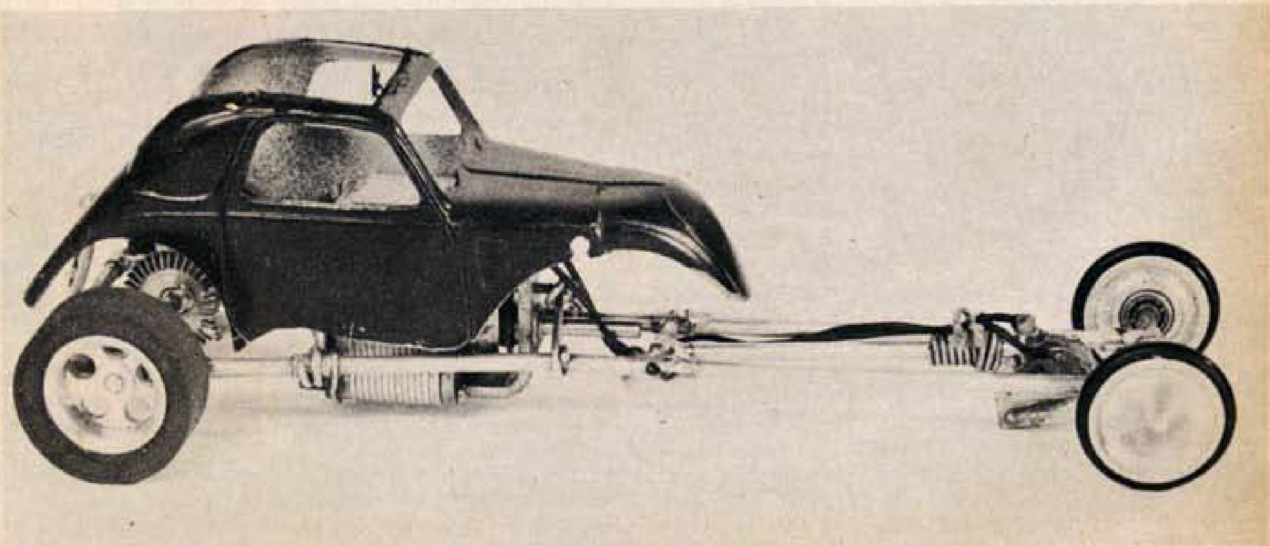
In every case the electric driving motors should be concealed to keep the cars more authentic looking. All cars with exposed engine compartments should be made to carry scale engines or, if space is at a premium and the electric motor is placed in the engine compartment, then a full hood should be insisted upon. In general, all cars should be built to resemble real cars and not be as far out of the realm of possibility as are some.

With the number of scale plastic kits being made available in the 29¢ to 79¢ bracket, and of approximately 1/30th scale, a whole new set of classes could be started.

In summation, the delightful and relatively inexpensive sport/hobby of slot drag racing is growing by leaps and bounds and model car manufacturers are rushing to add quality items to the vast array now available. It is a good, wholesome pastime and it should be encouraged for it brings into out-and-out automobile racing countless car fans who might otherwise never have the opportunity to try their skills out on the track.



Rapid coupe usually wheelstands away from start, has guide shoe up front but pivoted at rear axle so car won't jump track under acceleration.



A 1/25TH SCALE FIAT-BODIED COMPETITION COUPE WITH AN 1/8TH-INCH BRASS TUBE FRAME. BEST E.T. IS 1-3/4 SECS.

IMPROVED HANDLING FOR SCALE RACERS

BY JIM RUSSELL



The phenomenal slot racing hobby has now reached the level of maturity wherein two identifiable branches are becoming apparent. A number of builders have emphasized the all-out speed of a given electric motor, with only secondary attention to the detail and scale accuracy of the model. Such cars may be usually identified by "dragster-slicks" on the rear wheels, drastic cut-outs for the rear wheel wells and front wheels that can't touch the track. Usually the track on the rear wheels will be exaggerated — even to the extent that the rear wheels project outside the body shell itself. The primary appeal of this type of car lies in its high speed and performance potential. Races with this type of car invariably present a great deal of excitement and action.

The other line of development is the builder who places primary emphasis on the scale realism and detail accuracy of his model. This type of car will usually have a difficult time competing against the "hot rod," especially in terms of cornering ability. This is primarily due to the fact that most commercially-available permanent magnet motors, when installed in a scale chassis, inherently produce a center of gravity somewhat higher than is found in the full scale car itself. The "hot rod" type of car partly compensates by spreading the track width wider — regardless of the scale appearance.

What are some of the ways by which the builder who is more interested in scale realism can improve the handling characteristics of his model? Before proceeding, one thing should be stated clearly: there are no "school solutions" in building scale model racing cars any more than there are "school solutions" to constructing full size racing cars. While one car or one motor, rear end ratio, weight distribution, or other design may dominate the races on any given track for a period of time, sooner or later somebody comes along with a better car.

Broadly speaking, most of the design characteristics that apply to full scale cars also apply to scale miniatures. Even the handling characteristics attributed to over-steering or under-steering are apparent in slot racers in spite of the fact that the front end is tied to the groove. A simple experiment with changes in weight distribution in the scale model will produce the necessary evidence to prove this point.

One of the first steps that must be taken in improving the handling characteristics of the car is to place as much of the weight mass as possible as close to the track as possible. One way to achieve a low center of gravity is to select a body shell that is extremely lightweight. This is important not only in reducing top-heaviness, but also in reducing overall weight — thus improving the power-to-weight-ratio. The "Superleggera" (lightweight) racing bodies by Russkit which illustrate this article are an example of planning for these factors.

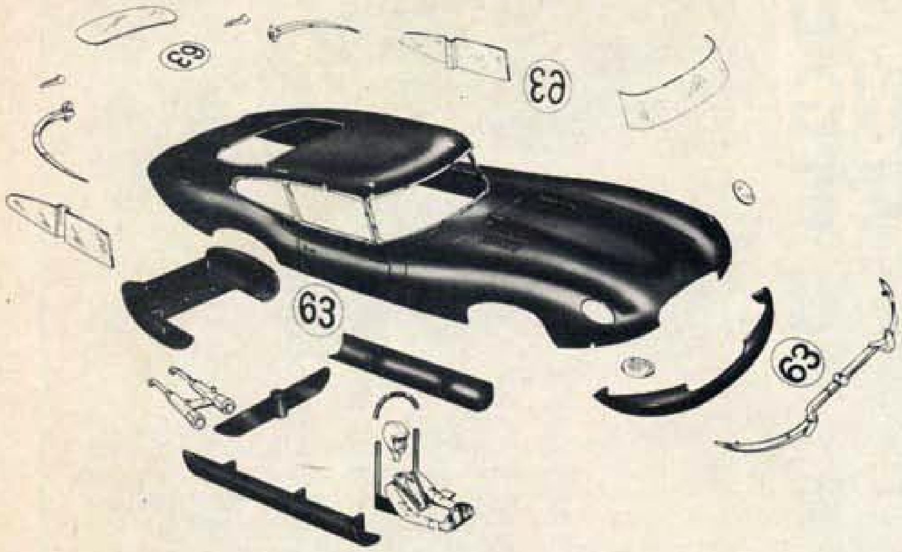
Sprung front wheels are virtually a necessity for optimum handling if particular track rules require that the front wheels touch the track. This is especially true when, in addition, the car is equipped with a sprung rear end or if there is waviness in the track itself. And, of course, if suspension is used, some method of damping the oscillations should be devised. An example of Russkit's Maserati "Birdcage" is shown here. It has a swing axle rear end and adjustable shock absorbers on the rear end.

Springing for the front end is accomplished by fabricating an "A" arm out of aluminum stock, with a spindle and small compression spring epoxied onto the apex. The upper part of the spring is soldered to a mounting post on the frame. The in-board legs of the "A" arm are drilled with small holes through which a length of piano wire is inserted, and soldered to the chassis in turn. Damping for the front suspension is satisfied by use of wheel packing grease.

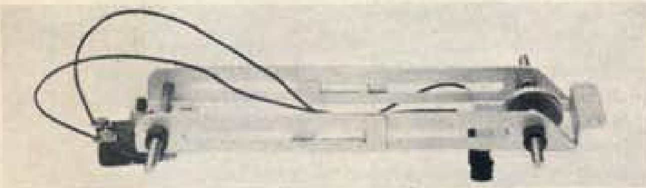
The rear axle is made of nylon rod available through Russkit. The wheels are then fastened with epoxy. The nylon rod, being very flexible, provides the springing and jointing needed for rear suspension. Small hub carriers are installed on the outboard ends of the "half-shafts." These are connected by trailing lengths soldered to 1/4" O.D. washers which were mounted on bolts soldered to the frame. Also, inboard from the washers a piece of cardboard cut to the same diameter of the outboard washer is on the bolt. Next in line inboard on the bolt is an additional washer. This washer "sandwich" is spring-loaded by means of a coil compression spring further inboard followed by a hex nut. The hex nut is used to adjust the spring tension on the washers — thus giving a very satisfactory shock absorber.

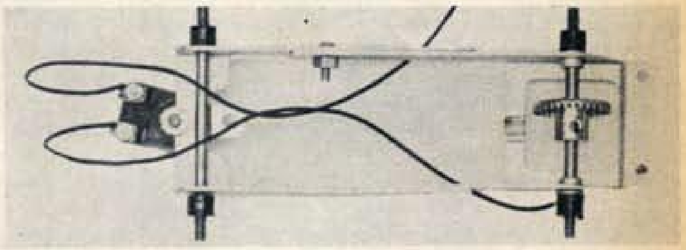
The net result of this work has been a scale model that closely duplicates the full-scale Maserati "Bird Cage" in appearance, construction and satisfying performance.

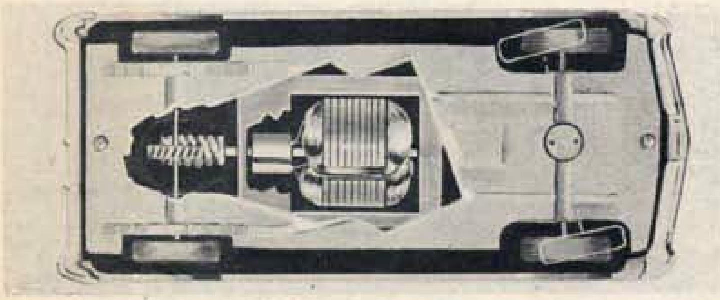
NEW IDEAS FOR



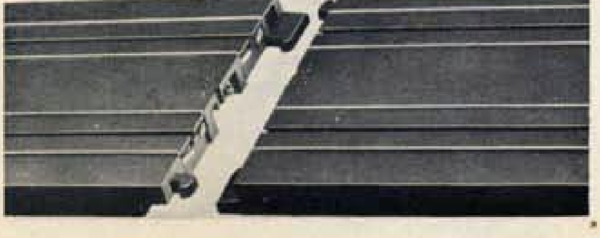
Here is a preview look at what promises to be one of 1963's most significant developments in table top racing: the entry of Revell into the field. Of interest is the fact that this major kit manufacturer will market its racing products in parts and components rather than complete sets. You will be able to buy chassis (1/24th and 1/32nd), bodies (Jaguar XKE shown here), wheels, tires and pickups.
wheels, tires and puckups.





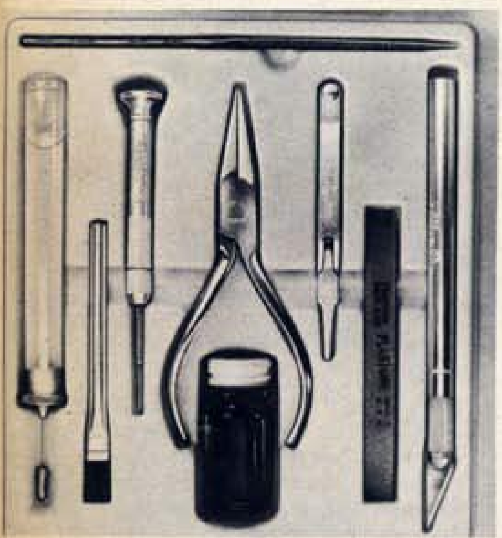


TYCO, one of the big names in HO railroading is about to enter table top racing, and in the scale it knows. Outstanding features of the new "Speedways" are track that locks together without clips or inserts, a push-button hand control (with an attachment that gives off an audible motor roar), and balanced rotary motors with worm gear drive designed for maximum power.

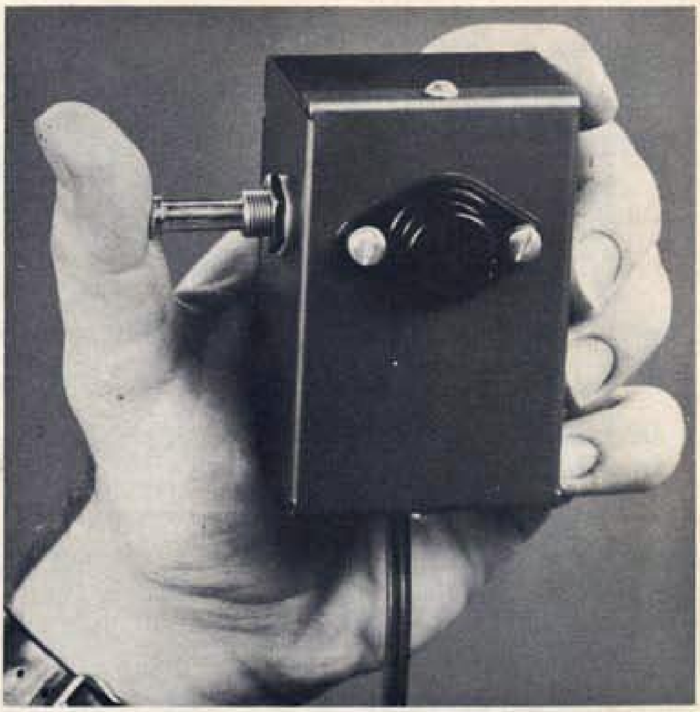




SLOT RACERS



Respected tool maker X-Acto now produces this "Pit Kit" exclusively for table top racers. Included are a hard steel screwdriver, self-locking tweezers, adhesive stick, bristle brush, file, X-Acto knife, track cleaning fluid and a pin-point oiler.



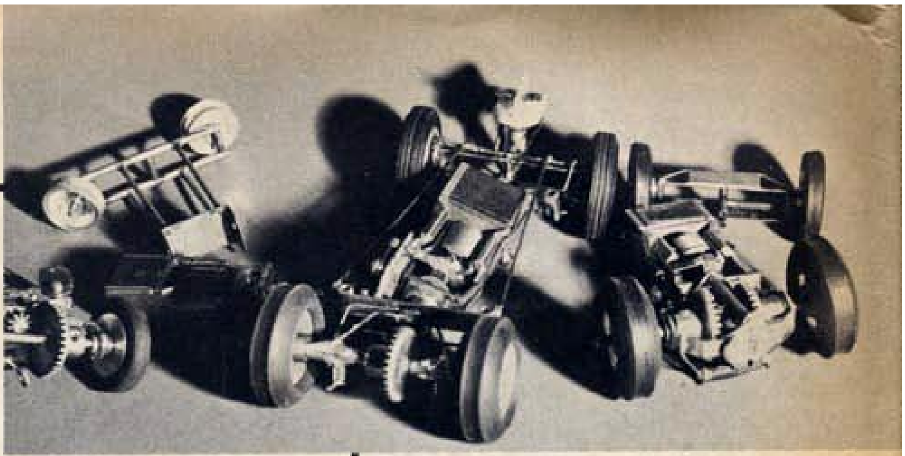
One of the keys to winning close table top races is a responsive and accurate hand controller. Just introduced is this precision-built transistorized unit by Stern Electronics of Los Angeles. The Posi-Trol HC-100 is an all-metal, domestically produced instrument with a $12.95 price-tag that is a real investment.



Racing pioneer Strombecker now markets a dual purpose, high density putty specially designed for increasing the weight of race cars and body customizing. With this handy material you can make track-side weight adjustments.

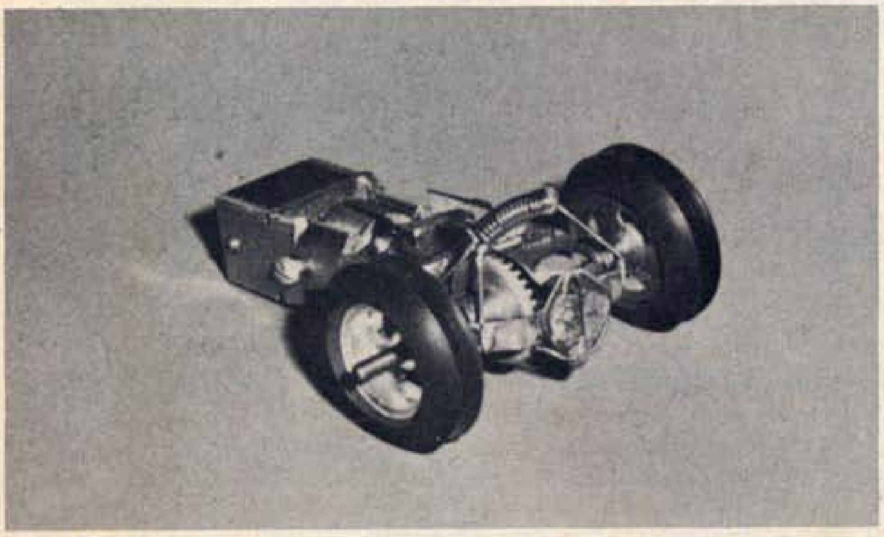
For the enthusiast who wants a really well stocked racing garage here is a wheel and tire set that includes 12 chrome plated wire wheels, 12 soft rubber tires (7/8, 13/16 and 1 inch sizes), and a set of Eldi matched contrate gears. A complete tire reference chart is also included. Price is $3.95 from Auto World, Box 961, Scranton, Pa.



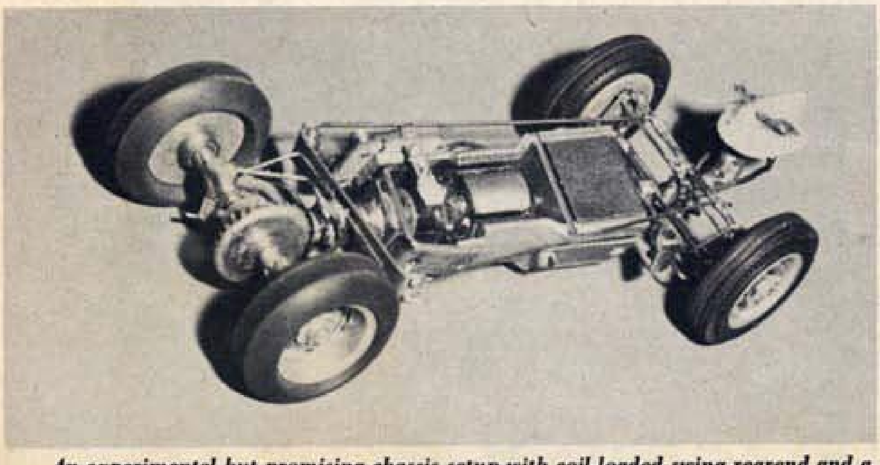


Swingin' Things FOR ROAD RACING

Discussing Some New Concepts In TT Racer Chassis Design



Thus far the fastest road cars have used rigid chassis to eliminate weight, but in the future tire adhesion becomes increasingly important leading to swing rearends.



An experimental but promising chassis setup with coil-loaded swing rearend and a swing-axled, steerable front suspension. It's heavy, but it really flies.

BY BILL SIPPEL

In this still early stage of table top racing, cars built with rigid chassis components are in the majority and are the proven winners. However, a number of attempts at more advanced construction are showing up and, before too long, these more exotic machines will be leading the way to victory lane. To give you scratch builders chassis food for thought, here are some thoughts on wild new TT designs:

STEERING Various systems have been tried. Where your guide attaches means a lot but we will cover that separately in later issues. Steering in general is the same, the wheels turn. However, the tie rod can trail or lead, it can be solid or work through a center idler, giving true Ackerman effect. One thing common on a fast car is wheel wobble. A radical king pin angle, bottom forward, helps this situation. Also all play should be eliminated without making the steering tight. Work in as close as possible with tie rods etc. to eliminate large cuts into the body for turning clearance.

GUIDES WITH STEERING If you use pins rather than a blade it is normal to have one pin at the center of the axle. The other pin leads and is connected to the tie rod, thus turning the wheels in turns, keeping them straight in the straights. It has been found that the rear pin can be eliminated, if wobble is eliminated and just the forward pin used. This will give you a softer entry into the turns and allow a slightly larger arc than the given slot. If using a guide, it works better if it is on an arm leading the front axle. To give additional action, if you rotate the post stem in a tube, you get the same action as the single leading pin without the dig-in effect. One step further is that the unit, steering and guide, can swivel on a tube run-

ning forward from the main frame; or the steering may swivel and the guide not. The swivel may be free style or controlled through piano wire tethering.

RIGID AND SWIVEL NON-STEERING This can work the same as the swivel units described above but you do not have the problems of the tie rods etc. Unless you can lift one wheel in the turns it pays to have them rolling independent of one another rather than on a locked axle.

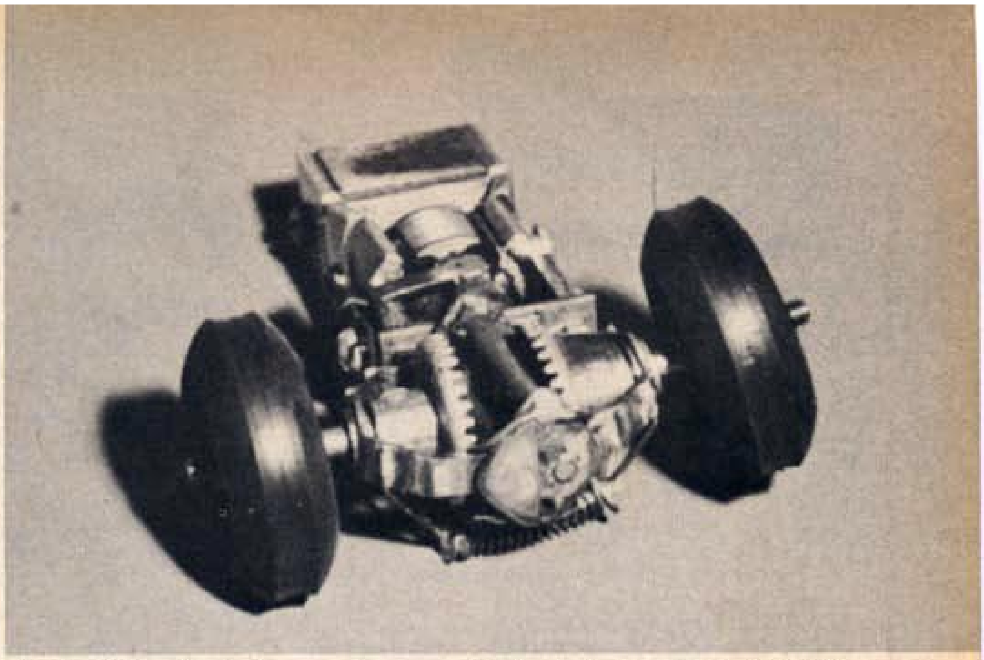
THE FALLAWAY This system works the same as the rigid or swivel front end. The difference is that the guide is on an arm that is attached to the frame at some point behind it, in hinge or fallaway style. It seems the farther back the better. Unlike the drag machine it has a limited fall and is contolled through springs or rubber bands. The idea is not to lift the front of the car but rather to keep the guide pressed tightly into the slot in the turns.

FLEXING AXLE This is just the matter of using material such as nylon rod for the axle. You stabilize it near the wheel fore and aft and let it bow as it wishes. Of course you are stable at the gear also. It can change by turning down the shaft size between the heel and gear. Nylon rod is not hard to find in standard diameters. You might even try tube for more flex.

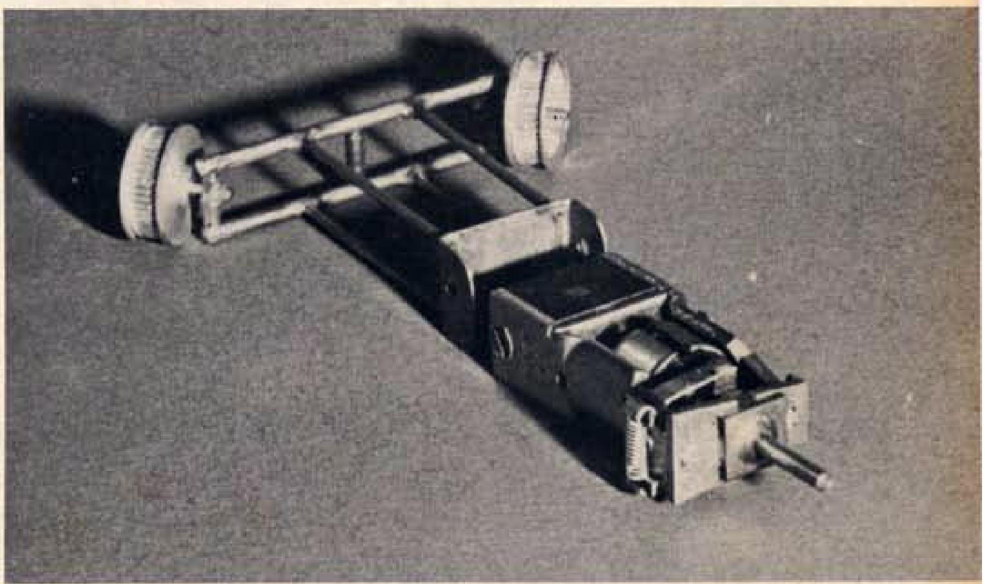
U JOINTS This gets quite involved if, in fact, you want to run double joints per side. In most cases they are used one on either side of the gear and employ swing axle rather than Di Dion.

FULL SWING RIGID AXLE Here is one that you will see an article on later. First a tube is slid over the motor drive shaft with a bracket soldered to it to use for body mounting. Next a second tube is slid on, either over or behind the first tube. On this shaft is soldered a U bracket to carry the rear axle shaft and gear. Next the motor pinion gear is pressed on to hold them in place but not too tight to keep them from turning. Put the axle through the bracket holes and you have a swinging affair. You can tether all or any part through piano wire, small coil springs or torsion arms.

Now using certain of these items as described you could have wheels steering, every part rolling free from each other part (front, motor, rear). With this amount of action you can have a ball building, win or lose.



Another look at the dual-crown swing rear axle setup shown on opposite page, this time in upright position. Arrangement produces excellent road-grip characteristics.



An experimental steerable front wheel and mounting adaptor for Pittman DC195 motor. Progress in racing will soon require such developments for greater speeds.



Still another swinging innovation, this time with all four wheels coil-loaded but with non-steering front wheels.

MCS *Spotlights:*

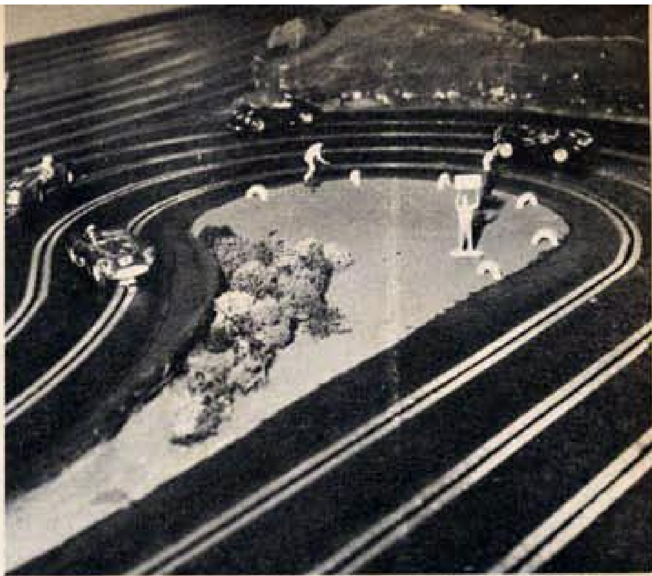


TABLE TOP TRACK and CLUB of the MONTH

The Division Street Raceway Club of Los Angeles is one of the nation's growing army of adult organizations devoted exclusively to the mutual enjoyment of table top racing. Just eight months old, this California club already operates one of the top tracks in the area. This great road course is located in an old store building. Each member of the club has a key to the headquarters and can use the track at any time of the day or night. Overall costs are divided equally among the members and emergency expenses are met by the small entry fees charged at the weekly club race night. Busiest officer of the group is Marin Pena. He is called the "Scrutineer" and it is his job to make sure that all cars conform to the established rules of size, power and authenticity.

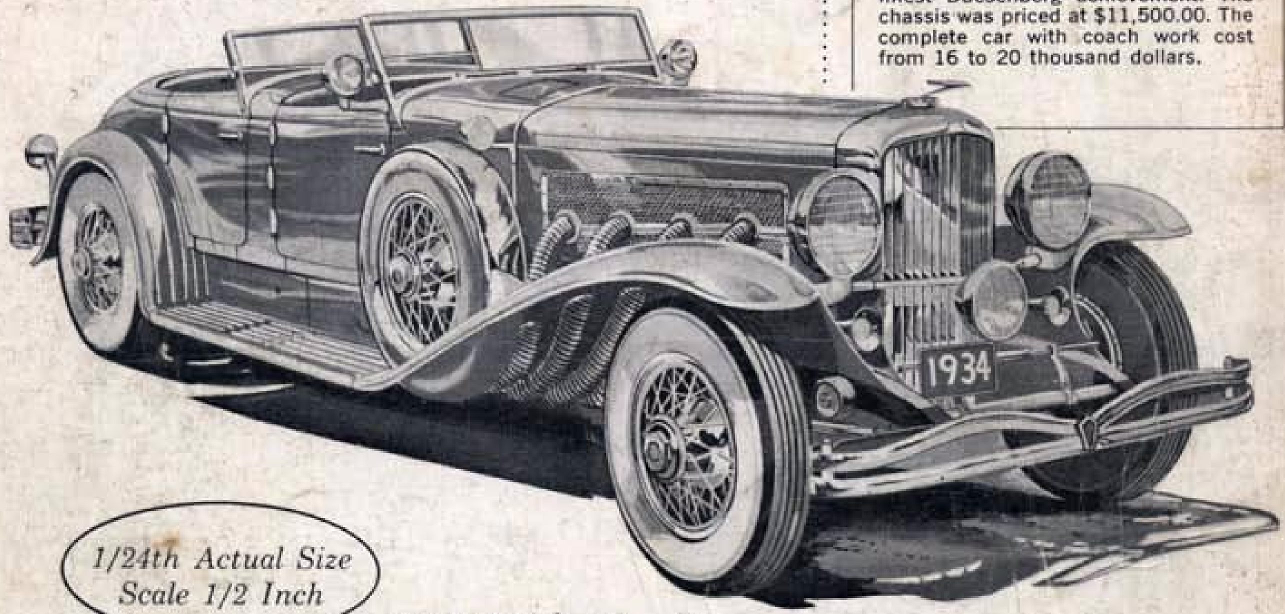



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1/24th Actual Size
Scale 1/2 Inch

1934 Model — SJ

Duesenberg

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With Body by Weyman and Supercharger

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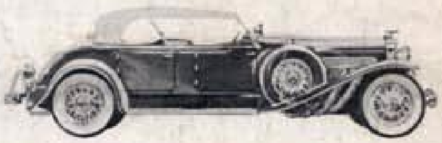
Body is rich matched-color tan, with black top, black simulated leather upholstery and seats and black running boards. Length $9\frac{1}{4}$ inches. Wheel base $6\frac{1}{2}$ inches.

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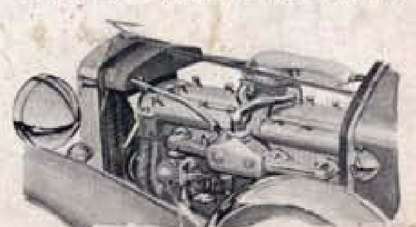
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